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ABSTRACT

Ten research papers are presented that were commissioned by the Office of Bilingual Education and Minority Languages Affairs for the 1990 research symposium on issues related to Limited-English-Proficient (LEP) students. Responses from 20 practitioners who served as discussants at the symposium are included in the proceedings. Topics range from demographics to methodology, language teaching, early childhood, and assessment. (LB)

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PROCEEDINGS OF THE FIRST RESEARCH SYMPOSIUM ON LIMITED ENGLISH PROFICIENT STUDENTS' ISSUES

Office of
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FOREWORD

The 1990 Research Symposium on Issues of LEP Students was a first for the Office of Bilingual Education and Minority Languages Affairs (OBEMLA). The mission of OBEMLA is both simple and challenging: to enable limited English proficient students to learn English and simultaneously meet grade promotion and graduation requirements. By commissioning ten research papers and asking practitioners to respond, we hoped to bring together the experience and insights of two groups with vital contributions to make to that mission. The publication of their work is intended to widen the availability of the information, interpretation, and direction contained therein.

I cannot sufficiently underscore the importance of work of this nature and of the people who produced it. It is no secret that bilingual education is today the focus of controversy — pedagogical and political. Even ardent proponents of bilingual education must constantly wrestle with questions about how our shared mission is best carried out. Whatever the political ideologies, whatever the motivations behind both controversy and question, the fact is that bilingual education is, relatively speaking, in its infancy. In the long history of American education, the specialized field of bilingual education occupies a mere twenty years. Similar controversies once swirled (and still do) around the teaching of the classics and math and writing. So we need good solid research. We need it to discover not the single right answer but a multitude of approaches to respond to the multitude of local situations. We need our collective best thinking to create the most effective tools to achieve our critical mission. It is the children who will be the most important beneficiaries of our work. Ultimately, of course, it is the nation.

OBEMLA is grateful for the labor and thought of these thirty people, scholar and practitioner alike. We hope that colleagues across the land will find the results helpful in their own service to language minority communities.

Rita Esquivel
Director
Office of Bilingual Education
and Minority Languages Affairs
U.S. Department of Education

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The OBEMLA Research and Evaluation staff wishes to express its sincere appreciation to the authors of the ten commissioned papers in this publication: Else Hamayan, Erling Boe, Jorge Chapa, Bernard Mohan, Thomas Yawkey and his collaborator, Joseph E. Prewitt-Diaz, Ed De Avila, Leonard Baca, Barbara Flores, Wallace Lambert, and Ellen Riojas Clark.

Our special thanks to the discussants who agreed to review the commissioned papers and respond to them: Anne Willig, Rosa Castro Feinberg, Reynaldo Macias, Hector Montenegro, Carol J. De Vita, Rafael Valdivieso, Anna Chamot, JoAnn Crandall, Olivia N. Saracho, Sonia Ortiz-Gulardo, Cynthia Prince, Angie Soler Galiano, Eddy Bayardelle, Philip C. Chinn, Mary Lou McGrath, Betty J. Mace-Matluck, James E. Alatis, G. Richard Tucker, Migdalia Romero, and Delia C. Garcia.

These contributors have made it possible for OBEMLA to share with researchers, as well as practitioners, information that will contribute to continued discussion and refinement of theories regarding limited English proficient (LEP) students' education and language development. At the same time, OBEMLA believes that research applications discussed in these papers have broad implications for educators working with LEP students and that the information was presented to that audience in a suitable manner.

Carmen Simich-Dudgeon
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INTRODUCTION

On September 10 through 12, 1990, the Division for Research and Evaluation hosted its first National Research Symposium on Limited English Proficient (LEP) Student Issues sponsored by the Office of Bilingual Education and Minority Languages Affairs. With this first symposium, OBEMLA has taken a leadership role in providing a national forum to foster a dialogue between practitioners and researchers; to give an opportunity to researchers, practitioners and policy makers to discuss state-of-the-art advancements in applied research pertaining to the education of LEP students; to identify research findings which will assist the Secretary in improving the accountability of grantees receiving Title VII funding; to identify research findings that underly exemplary practices in LEP education and that support the President's and Secretary's National Education Goals; and to inform the U.S. Department of Education as to research efforts and findings that should be considered when developing OBEMLA's Research and Evaluation multiyear plans.

This volume consists of ten commissioned papers that were presented at the first research symposium, together with the responses of twenty discussants. The topics range from demographics; issues of method and pedagogy; language teaching and learning; early childhood; to assessment and LEP exceptional issues. This introduction summarizes and highlights the main foci and propositions advanced in the papers, including their relevance to the education of LEP students and their teachers.

The first paper is Else V. Hamayan's Preparing Mainstream Classroom Teachers to Teach Potentially English Proficient (PEP) Students. PEP is a term used by Dr. Hamayan to describe those students whose first language is other than English, who are from different cultural and/or ethnic backgrounds and who have the potential for becoming English proficient. In view of the growing numbers of these youngsters in "mainstream" classrooms, Dr. Hamayan suggests that the preparation of "mainstream" teachers on issues of PEP education should be a priority of local and state education agencies.

Dr. Hamayan proposes a staff development program aimed at "mainstream" teachers with PEP students in their classrooms. The program includes four major knowledge areas: second language learning, bilingualism, integrated content English as a second language (ESL) instruction and grouping practices. Dr. Hamayan concludes that by preparing mainstream classroom teachers to teach PEP students there are at least two benefits: the students will achieve in both language and content areas, and the training will ensure that collaboration be created between the mainstream teachers and their bilingual or ESL counterparts.

Erling Boe's paper, Demand, Supply, and Shortage of Bilingual and ESL Teachers: A National Perspective, proposes (a) a comprehensive teacher demand, supply and shortage model (TDSS) as a conceptual framework for analyzing and determining the teaching force in Bilingual and ESL education; (b) reviews available data on the shortage of bilingual education teachers and presents new national data on their characteristics; and (c) discusses information needs and policy issues with respect to demand, supply and shortage of bilingual education teachers. Dr. Boe suggests that there is a need to consider alternative means to increase the supply of ESL and bilingual teachers in order to improve the retention of qualified experienced teachers and to improve the yield and retention of newly graduated teachers.

In his paper Estimates of School-Age Language Minorities and Limited English Proficient Children of the United States 1979-1988, Jorge Chapa discusses estimates of school-age, 5-17 year old, minority language and non-English language background populations (NELB), and of the (LEP) population of the United States. Dr. Chapa's estimates are based on the population counts for first, second and third generation Hispanics, Anglos, Asians and Blacks derived from the June 1988 Current Population Survey.

Dr. Chapa presents estimates based on the population of counts for first, second and third generation Hispanics, Anglos, Asians and Blacks derived from the June 1988 Current Population Survey. The minority language population was estimated by determining the ratio of minority language children to the total population for each race-ethnic-generation group from the November 1979 Current Population Survey. The size of the LEP population in 1988 is the result of multiplying the NELB population by LEP-to-NELB ratios established in previous studies. Dr. Chapa's LEP estimates are much higher than some projections which do not reflect the impact of high rates of recent Hispanic and Asian immigration on the size of the school-age NELB and LEP populations. Dr. Chapa states that the rapid increase in language minority, LEP individuals parallels the increase of minorities in the current school-age population and in our future work force.

In his paper, LEP Students and the Integration of Language and Context: Knowledge Structures and Student Tasks, Bernard Mohan discusses research on themes which offer practical and theoretical bases for teaching language and content simultaneously. Dr. Mohan cites three theoretical perspectives relevant to this approach: the input hypothesis, the bilingual proficiency theories and language socialization theories. Dr. Mohan reviews research on cognition, specifically in the area of knowledge structures, indicating that they underlie subject-area knowledge and thinking skills, are cross-cultural; and underlie expository reading and writing knowledge. Dr. Mohan further suggests that student awareness of knowledge structures and of information patterns improves retention of subject matter.

Research on cognition is also reviewed as regards to "student tasks," or those metacognitive strategies that language learners use in order to gain second or foreign language knowledge. "Student tasks" research, he suggests, form the basis for teaching and learning strategies such as cooperative learning, learning strategies, and English for specific purposes. Dr. Mohan concludes that knowledge structures and "student tasks" are complementary, and that more research should explore the specifics of their relationship.

Dr. Thomas Yawkey and his collaborator, Dr. Joseph O. Prewitt-Diaz, explore two theoretical frameworks underlying educational programs for young children: cognitive-developmental and maturational/linguistic in their paper, Early Childhood: Theories, Research, and Implication for Bilingual Education.

The authors state that the cognitive-developmental view supports the idea that intellectual and language growth and learning are action-oriented and variable among young children and are impacted by factors such as direct experiences with the physical and social worlds. The motivational/linguistic view, they suggest, stresses development and learning as a series of overlapping, predetermined and continually emerging traits. The authors recommend that there is, or should be, a third view which is an offshoot of the maturational/linguistic view: the sociolinguistic perspective. This view recognizes the significant impact that the sociocultural milieu have on children's language and intellectual traits.

Several cognitive developmental implications for young LEP children are discussed including practical applications to the early childhood classroom and home environments. In addition, discovery learning and the selection of materials for language and intellectual development are suggested.

Ed De Avila's paper, Assessment of Language Minority Students: Political/Technical/Practical and Moral Imperatives, considers the impact of the Lau v. Nichols Supreme Court decision in 1974 which drew national attention to the problem of language variation in the schools and spawned the legal mandate behind the process of identifying students with limited English proficiency placing them in special programs in which these limitations were addressed, and finally, reclassifying them with an eye toward their eventual return to mainstream classrooms. Dr. De Avila suggests that prior to the Lau decision, testing of Language Minority students had been widely varied and largely discriminatory. Since then, he states, assessment of language proficiency has been fundamental to language minority education thoroughly the United States, and testing of students has been legally required wherever significant numbers of children from homes where English has not been the primary language have been concentrated.

Dr. De Avila considers these issues and how they have affected the creation and use of tests and recommends alternative approaches toward the creation of empirically verifiable models.
Leonard M. Baca reviews current issues in the identification and assessment of LEP students being considered for special services in Theoretical and Applied issues in Bilingual/Cross-Cultural Special Education: Major Issues and Implications for Research, Practice and Policy. Dr. Baca focuses on the characteristics of the at-risk population of LEP students who are often placed in special education programs and a theoretical framework to guide research and practice in this field. Dr. Baca reviews three theoretical paradigms: Cummins, (1986) empowerment perspective; the effective schools and instruction synthesis of Baca and Cervantes (1989); and the enriched literacy framework of Ruiz (1988) to substantiate the proposed theoretical framework.

Dr. Baca advocates moving away from strict reliance on psychometric approaches. He emphasizes the need for greater reliance in the use of clinical judgment based on informal and dynamic assessment of the student and for using the student's native language —to the extent possible—for testing purposes. He strongly emphasizes the need for the development of effective referral intervention models and for the development of effective referral intervention models and strategies for LEP handicapped students.

Dr. Baca concludes with suggestions for practitioners who are working on a daily basis with culturally and linguistically different exceptional students, and recommendations for continued research.

In Literacy in a Second Language: The Whole Language Approach, Barbara Flores discusses how children become aware of literacy as a cultural object of knowledge and native and English language development through Whole Language pedagogy. Whole language pedagogy is underscored as the theory-in-practice that has been used to promote the literacy proficiency of second language learners. Dr. Flores suggests that since literacy is the yardstick used to mark academic achievement, educators who work with LEP students need to become aware of the most current research related to literacy and biliteracy development across social contexts.

In his paper, Issues in Foreign Language and Second Language Education, Wallace Lambert argues that there are several major issues emerging in foreign and second language education in the United States that need to be considered before substantive improvements can be made in the foreign or second language competence of the nation's citizens, including native English speakers and those whose native language is other than English. Some of the issues he discusses are: (a) foreign language and second language professionals have substantially different aims, orientations, and preparatory training and their offerings are directed to different populations of users; (b) there is a serious demand by those being educated for higher levels of competence in foreign and second languages than usually occurs in school-based education programs; (c) there are time constraints—no extra time can be directed to language education if it curtails the comprehensive education in math, sciences, humanities and social sciences that are needed for survival in today's highly technical and international worlds markets.

Dr. Lambert concludes by calling for the integration of the talents and training of both foreign language and second language professionals and a greater collaborative combination of those educational approaches used in both foreign and second language education. He also suggests that two-way bilingual immersion education programs can simultaneously enhance the language competency of both native and non-native English students without short changing them on basic education needs.

The last paper in this volume, The State of the Art in Research on Teacher Training Models with Special Reference to Bilingual Education Teachers, by Ellen Riojas Clark addresses teacher training through an examination of two key questions: how has bilingual teacher education evolved over the years, and what should all teachers —and more specifically bilingual and ESL teachers— know and be able to do when working with language minority, culturally-different students?

The first section of her paper describes the state of the art in bilingual teacher education. The second part describes a model of teaching competencies. Dr. Clark concludes with practical recommendations regarding skills that teachers need to acquire in order to educate language minority students of limited English proficiency.

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BIOGRAPHICAL SKETCHES

ELSE V. HAMAYAN is Coordinator of Training and Services at the Illinois Resource Center in Des Plaines, Illinois. She received a Ph.D. in psychology from McGill University in Montreal where she conducted research on patterns of second language acquisition and individual learner characteristics that contribute to the attainment of proficiency in a second language.

Dr. Hamayan participated in creating a special program for Southeast Asian refugee children in the Philippines, as well as designing assessment and instructional services for potentially English proficient students in various school districts in the United States. Over the last ten years, Dr. Hamayan has conducted inservice training for ESL, bilingual, and mainstream classroom teachers on second language issues.

ANN C. WILLIG is currently director of the Florida Atlantic University Title VII Multifunctional Resource Center in Boca Raton. Prior to winning that contract, she was Senior Trainer at the Evaluation Assistance Center East, Georgetown University, and, previously, was Coordinator of Longitudinal Research at the handicapped Minority Research Institute at the University of Texas. In earlier years, Dr. Willig was a classroom teacher in the schools of Puerto Rico and also developed and directed bilingual parent education programs in both Dallas and San Antonio, Texas.

Dr. Willig received her Ph.D. at the University of Illinois as a Title VII Fellow. Her B.S. from the University of Puerto Rico in Rio Piedras, and M.S. from the University of Illinois in Special Education.

ROSA CASTRO FEINBERG is a visiting Associate Professor of Education in the Department of Urban, Multicultural, and International Foundations at Florida International University. For the past 17 years, she has directed Lau activities for the University of Miami Desegregation Assistance Center, which sponsored training and technical assistance activities in a multi-state area for school districts with National Origin Minority students. She was a public school teacher for 12 years, in Leon, Gadsden, and Dade Counties in Florida, a Commissioner of the Florida Post Secondary Education Planning Commission, a Member of Dade County's Housing Finance Authority and is the first Hispanic woman to win county-wide election and to serve as a Member of the Dade County School Board.

ERLING BOE assumed a faculty appointment in psychology at the University of Victoria (Canada) after completing his doctoral study in psychology at Washington State University in 1961. After subsequently serving as Visiting Assistant Professor of Psychology at the University of Washington for a year, he completed postdoctoral study in psychology at Brown University in 1966, and then accepted appointment as Associate Professor of Education at the Graduate School of Education, the University of Pennsylvania. His research and publications during this period concerned the role of incentives in behavior, and psychometrics.

In 1988, Dr. Boe devoted a sabbatical leave to studying teacher supply and demand and education reform policy issues while a visiting scholar in 1989 at the National Center for Education Statistics in Washington, D.C. His current research and publications focus on teacher demand, supply, and shortage issues and on the adoption and use of policy-based incentives for the teaching profession and in education reform strategies.

REYNALDO F. MACIAS is a faculty member in the University of Southern California (USC) Department of Curriculum, Teaching and Special Education, School of Education, and co-directs the doctoral specialization in language, literacy, and learning. He also serves as Director of the USC Center for Multilingual, Multicultural Research. He is the author, co-author, or editor of six books and over two dozen research articles and chapters on such topics as bilingual education, Chicanos and schooling, language choice, analyses of national language survey data, population projections, language policies, and media research. From 1979 to 1981, he served as the Assistant Director for Reading and Language Studies at the National Institute of Education in the United States Department of Education.

Dr. Macias received his doctoral degree from Georgetown University in linguistics, specializing in sociolinguistics and minoring in theoretical linguistics and language policy and planning. He received his bachelor's degree in sociology and a master of arts in education (early childhood curriculum and instruction) from University of California at Los Angeles (UCLA). He was born and raised in East Los Angeles, graduated from Garfield High School, and attended East Los Angeles College for one year.

HECTOR MONTENEGRO earned his bachelor's degree in mathematics at California Polytechnic University and went on to Stanford University, where he received an M.A. degree in mathematics education.

After teaching math for four years at the high school level in San Jose, California, Mr. Montenegro came to Washington, D.C. on a Ph.D. fellowship to Georgetown University. He later taught English-as-a-second language in D.C. public schools for three years and was an assistant principal for two years. Mr. Montenegro also served as an assistant principal at Lake Braddock Secondary School in Fairfax.

Currently, Mr. Montenegro is the principal at Hammond Junior High School in Alexandria, Virginia.

JORGE CHAPA is an Assistant Professor at the Lyndon B. Johnson School of Public Affairs at the University of Texas, Austin. In addition, he is a Research Scholar for the Tomas Rivera Center, a Hispanic Policy research institute with offices in Claremont, California, and San Antonio, Texas. During the summer of 1990, Dr. Chapa was the Director of the Inter-University Consortium for Political and Social Research, Statistical Workshop, "Latino Research Issues," at the University of Michigan, Ann Arbor. Dr. Chapa attended the University of California where he received his doctorate in sociology and a separate master's degree in demography.

Dr. Chapa co-authored the book, The Burden of Support, and has had articles published in several professional journals.

CAROL J. DE VITA, is a Senior Research Associate at the Population Reference Bureau (PRB) and Director of PRB's publication series, "America in the 21st Century." Trained as a demographer and policy analyst, Dr. De Vita's work has focused on the impact of changing demographic trends on U.S. Public policies. She is author of America in the 21st Century: Social and Economic Support Systems, an assessment of dependent populations groups—children, elderly, the working poor, and the disabled. Prior to joining PRB, Dr. De Vita was a Research Associate at the Urban Institute in Washington, D.C. where she directed the survey work of The Urban Institute's Nonprofit Sector Project, a five-year longitudinal study to define the scope, structure, and financial base of the nonprofit sector and to monitor the effect of government budget cost on nonprofit service providers.

Dr. De Vita holds a B.A. in history from Northwestern University, an M.A. in demography from Georgetown University, and a Ph.D. in social welfare policy from Brandeis University.

RAFAEL VALDIVIESO is Vice President of the Hispanic Policy Development Project (HPDP) where he directs research and program activities to address education and related policies for Hispanic children, youth and families. His academic background is in sociology and social policy. He has taught at the undergraduate and graduate levels of higher education, as well as on the elementary school level.

Among his former positions, Valdivieso directed Special Programs for the Institute for Educational Leadership (IEL); was director of research development and federal government relations for Aspira of America, Inc.; and served as Special Assistant to former U.S. Commissioner of Education, Ernest L. Boyer. He serves on the boards of Child Trends, the Population Reference Bureau, and the Center for Population Options.

BERNARD A. MOHAN is Professor on the Faculty of Education, University of British Columbia, and Research Director of the Vancouver School Board Language and Content Project. He holds a doctorate in linguistics from the University of London and has published widely on linguistic aspects of learning, including, the book Language and Content (1986, Addison-Wesley).

ANNA UHL CHAMOT is an adjunct professor at Georgetown University, where she teachers bilingualism and is project director for a foreign language learning strategies research project. Formerly she was an assistant professor at the University of Texas at Austin, where she taught second language learning and teaching. She has been conducting research on second language learning strategies since 1982 and also served as research manager for the National Clearinghouse for Bilingual Education. Her publications include numerous professional articles on second language research, content-based ESL, curriculum, and classroom applications in professional journals.

Dr. Chamot is co-author of Learning Strategies in Second Language Acquisition (Cambridge University Press, 1990) and of ESL instructional materials (Heinle & Heinle, 1990; in press). Dr. Chamot is co-developer, with J. Michael O'Malley, of the Cognitive Academic Language Learning Approach (CALLA), a content-based ESL program for limited English proficient students. She is currently implementing this instructional system in the English-as-a-second language program in the Arlington (Virginia) public schools. Dr. Chamot received her Ph.D. from the University of Texas at Austin and also holds degrees from Teachers College, Columbia University, and from the George Washington University, Washington, D.C.

JOANN CRANDALL has an M.A. in American literature from the University of Maryland and an M.S. and Ph.D. in sociolinguistics from

Georgetown University. Currently she is Vice President of the Center for Applied Linguistics, where she also serves as the Director of the National Clearinghouse on Literacy Education.

Dr. Crandall's major interests are in research, teacher education, curriculum development in the integration of English language and content instruction, and literacy education. She is the author of a number of papers on content-based language instruction and the editor of ESL Through Content Area Instruction (Prentice Hall, 1987). She has taught graduate courses in TESOL, applied linguistics, and cross-cultural communication at a number of Washington-area universities and has participated in inservice workshops and institutes for the Department of Defense Overseas Dependent Schools, for a number of state and local education agencies in the United States, and for schools and teachers in many parts of the world. She is the former President of Teachers of English to Speakers of Other Languages (TESOL).

THOMAS D. YAWKEY is Professor of Education, the Pennsylvania State University, and Co-Director, Title VII Academic Excellence Project P.I.A.G.E.T. (Promoting Intellectual Adoption Given Experimental Transforming). Project P.I.A.G.E.T., a shared partnership between Penn State and the Bethlehem Area School District, is a dissemination model for young limited English proficient children and their parents. Receiving his Ph.D. from the University of Illinois, Champaign - Urbana, in early childhood education and cross cultural/developmental studies, Dr. Yawkey taught previously at the University of Maryland, College Park and the University of Wisconsin, Madison. At the latter institution, he co-directed the Native American Nutrition Education Program.

Dr. Yawkey has authored and co-authored numerous statistical and narrative articles and books on various aspects of the young child, parenting, and bilingualism.

OLIVIA N. SARACHO is professor in the Department of Curriculum and Instruction at the University of Maryland at College Park. She has taught Head Start, preschool, kindergarten, and elementary classes. She was the Director of the Child Development Associate Program at Pan American University.

Her current research and writing are in the areas of cognitive style, academic learning, and teacher education in relation to early childhood education. She is the co-author of Foundations of Early Childhood Education and Mainstream Young Children and is the co-editor of the series, Yearbook in Early Childhood Education. She also co-edited the book, Understanding the multicultural experience in early childhood education, published by the National Association for the Education of Young Children.

SONIA ORTIZ-GULARDO is currently an education consultant in New York City. From April 1988 through June 1990 she served in the capacity of Assistant Director of the Mayor's Office of Early Childhood Education. As Assistant Director, she coordinated with the Director, the nationally renowned early childhood program for four-year-old children, Project Giant Step. Giant Step was a collaborative project between the New York City Board of Education and the Agency for Child Development of the Human Resource Administration serving 8,000 children and their families.

Ms. Ortiz-Gulardo has an extensive background in programs serving limited English proficient children. She held the position of Coordinator of the Multifunctional Resource Center, a Title VII-funded technical assistance center, at Teachers College, Columbia University from 1984 through 1988. Ms. Ortiz-Gulardo holds a B.A. and an M.S. from Hunter College in New York City.

ED DE AVILA has conducted education research for over 20 years. He is perhaps best known as a co-developer of the Language Assessment Scales with Dr. Sharon Duncan. Dr. De Avila's work in the area of science and cooperative-based education is also well known. Both the LAS tests and the Finding Out Science curriculum continue to be used world wide. Dr. De Avila's major areas of expertise include language and cognition and the assessment of linguistic development of school-age children. Dr. De Avila is currently executive director of the Linguametrics Group.

Dr. De Avila has lectured at many universities and school districts on various topics throughout the United States and abroad. He has taught courses at the University of Colorado, University of California, Stanford University, and others. He has served as a senior consultant to numerous private and public agencies.

CYNTHIA PRINCE is Chief of Research, Evaluation, and Statistical Services for the Maryland State Department of Education. Before coming to Maryland this past March, Dr. Prince was Coordinator of the Program Evaluation Unit for the Connecticut State Department of Education and served as the state evaluator of bilingual education programs.

Dr. Prince received her M.A. and Ph.D. in bilingual/multicultural education and her M.A. in linguistics from Stanford University. While living in California she evaluated Title VII bilingual education programs in the San Francisco Bay Area.

ANGIE SOLER GALIANO is the Director of Bilingual Education for the State of Connecticut. She has been a bilingual education teacher and administrator for grades K-12 in addition to being a foreign language department faculty member at two universities.

She has been an outspoken proponent of high quality education and the restructuring of American educational institutions to better meet the needs of language minority children. In addition to presenting at conferences at the regional, national, and international levels, she established the first official partnership between two state education agencies - Connecticut and Puerto Rico - with the goal of enhancing the education of Puerto Rican children at both sites.

LEONARD BACA completed his masters degree in special education with an emphasis in mental retardation from the University of New Mexico in 1971. He earned his doctoral degree in special education from the University of Northern Colorado in 1974. He is currently the director of the BUENO Center for Multicultural Education as well as professor and chair of bilingual education and bilingual special education at the University of Colorado at Boulder. His research and writing are focused primarily in the area of bilingual special education.

EDDY BAYARDELLE is the Executive Director of the Division of Special Education for the New York City Board of Education, which serves 116,000 handicapped students. Prior to his appointment, Bayardelle served as Special Assistant to the Board's Manhattan Office and Board member Gwendolyn Baker. Before joining the Board of Education, Bayardelle held several posts at Bank Street College of Education, including Director of the Center for Language Minority Education, Associate Dean for Planning and Development, Assistant to the Vice President and Chair of Graduate Programs in Bilingual Education. While at Bank Street, he created the Educational Diagnostician's Program, a nationally recognized model for preparing educational diagnosticians and served as its first director.

In 1980, Bayardelle cofounded the New York Education Policy Fellowship Program (EPFP) of the Institute for Educational Leadership (IEL) and has served as its coordinator since then. In 1987, he cofounded ANMWE, an education advocacy and research organization to work on behalf of the Haitian-American community.

Fluent in French, Spanish, and Haitian Creole, he has published in the areas of literacy, bilingualism, multiculturalism, and special education and has translated and adapted tests for use in the public schools. Bayardelle completed his undergraduate work at Marymount College and his graduate works at Bank Street College. He is currently a Ph.D. candidate at New York University.

PHILIP C. CHINN is a Professor of Education in the Division of Special Education at California State University, Los Angeles (CSLA) where he is the coordinator of Multicultural/Multilingual Special Education Programs.

He is the former Special Assistant to the Executive Director for Minority Concerns at the Council for Exceptional Children (CEC). In that position he coordinated CEC's first two conferences on the exceptional bilingual child and the first CEC Symposium on Culturally and Linguistically Exceptional Children. He has co-authored three textbooks, written several chapters in books, as well as several journal articles on multicultural education and culturally diverse exceptional children.

BARBARA M. FLORES is currently a tenured full Professor in the School of Education at California State University, San Bernardino. She was one of the first Title VII Bilingual Fellows fifteen years ago and received her doctorate from the University of Arizona, where she studied with Drs. Kenneth and Yetta Goodman.

Dr. Flores' research interests have been the study of theoretical assumptions and their use in classrooms and co-creating pedagogy from the following four paradigms: sociopsycholingustics, social historical, psychogenetics, and critical pedagogy.

She has two books forthcoming: Language interference or influence: Toward a Hispanic Theory of Bilingualism, to be published by the State University of New York Press, as well as a co-authored book with Carole Edelsky and Bess Altwerger, Whole Language: What's the Difference?, to be published by Heinemann.

MARY LOU MCGRATH is Superintendent of Schools for the Cambridge Public Schools, Cambridge, Massachusetts. She began her career as a teacher in the Cambridge School Department in 1956. She became Coordinator of Primary Education in 1975; then Director of Elementary Education in 1978; Assistant Superintendent for Administration in 1987; Acting Superintendent in 1988; and was elected the first woman Superintendent of the Cambridge public schools in December of 1988.

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PREPARING MAINSTREAM CLASSROOM TEACHERS TO TEACH POTENTIALLY ENGLISH PROFICIENT STUDENTS

Else V. Hamayan

INTRODUCTION

The number of students with a primary language other than English who are in need of specialized instructional services is on the rise. Because of the large wave of immigration to the United States currently in progress, potentially English proficient (PEP) students continue to enroll in schools throughout the country (Watson, Northcutt and Rydell, 1989). The types of services provided to these students vary greatly and are dependent on several factors, including both the size of the linguistically diverse population in their area and the resources available locally. Some PEP students are enrolled in transitional bilingual programs and receive part of their education through the native language, while others simply receive instruction in English as a second language (ESL). Some students receive instructional support through other categorical programs, such as the federally funded Chapter I program, vocational programs, and migrant education.

The needs of a significant percentage of PEP students, however, remain unmet (CCSSO,1989). Students are either not given any extra support by the local school district, for example, or they are inappropriately served in programs such as special education. A recent survey conducted by the Council of Chief State School Officers indicated that at least 25 percent of PEP students remain unserved by local school districts in nineteen of thirty-three states that had a discrepancy between the number of PEP students identified and the number served (CCSSO, 1989).

Regardless of the type of program in which PEP students participate, or whether they receive any supplementary instructional support at all, a constant factor in the education of PEP students is the instruction they receive in mainstream classrooms. Even students who are in full-fledged bilingual programs spend part of their school day in a mainstream classroom; students who are not receiving any specialized instructional services, on the other hand, spend their entire school day in the mainstream classroom.

Because of the growing number of youngsters who qualify as PEP students and because of their increased presence in the mainstream, preparing classroom teachers to work with PEP students warrants serious consideration.

This paper is based on the notion that mainstream classroom teachers have an essential role to play in the education of PEP students. The preparation of these teachers for the assumption of the various roles that they may play in relation to their PEP students is the central theme of this paper. The preparation of teachers before service begins is discussed briefly; the major emphasis of the paper, however, is on the preparation of teachers at the inservice level. The emphasis on inservice training over preservice training is not because preparing teachers for specialized instruction prior to their employment is seen as undesirable but rather because of the nature of teacher training in general. It is doubtful that most teacher training institutions would be willing (nor would it be feasible for them) to offer coursework on a regular basis that would focus on the instruction of PEP students. After all, not all teachers in training will have PEP students in their classrooms. Therefore, this paper is addressed to teachers who find themselves in schools with a linguistically diverse student population. More specifically, the issues discussed in this paper are particularly pertinent to teachers who have not had extensive training in the education of PEP students.

THE ROLE OF THE MAINSTREAM CLASSROOM TEACHER VIS-A-VIS PEP STUDENTS

Regardless of the amount of time that a mainstream teacher spends with PEP students, he or she plays an important role in those students' educational development. Mainstream classroom teachers can have five major functions in the education of PEP students. Some of these functions emerge through daily contact with the students in the classroom and concern actual instruction. Others result from students' exposure to teachers in the larger school setting and may affect students' general linguistic, academic, social, and cultural development.

The first role that a mainstream classroom teacher can play vis-a-vis PEP students is that of a mediator and facilitator of learning. This notion of mediation is discussed by Feuerstein; the teacher is seen as a mediating agent who interposes him or herself "between the child and external sources of stimulation, and 'mediates' the world to the child by framing, selecting, focusing, and feeding back environmental experiences in such a way as to produce in him appropriate learning sets and habits" (Feuerstein, 1982, p.71). By virtue of their limited proficiency in the language of instruction, PEP students cannot optimally benefit from content area classes (e.g., math and science,) taught entirely in English. PEP students do not have the language proficiency necessary to meet the linguistic demands of content area classes. They may lack the ability to reason in English, and they are likely to have difficulty learning new vocabulary in English related to new content area concepts. Since both of these cognitive processes are in continual demand in the content area classroom (Chamot and O'Malley, 1986), some type of mediation is necessary.

The most direct way of mediating content area instruction for PEP students would be through their native language, but that is not always a feasible option, especially for a monolingual English-speaking mainstream classroom teacher. Other, albeit less desirable, options are available through the medium of English: teachers can help the PEP students in their classrooms gain access to instruction by specifically preparing them for content area lessons prior to introducing new concepts and by modifying their own teaching slightly (see Hamayan and Perlman, 1990, for practical suggestions). They can also help create a support system for the PEP students by setting up a peer tutoring arrangement in which PEP students are tutored by an English proficient peer or by simply pairing them up with buddies in the classroom who guide them through content area lessons as they unfold.

The second role that a mainstream classroom teacher can play in the education of PEP students is that of a person who facilitates the acquisition of English as a second language, especially the cognitively-demanding academic type of language that is used in content area classes. Essentially, any interaction between an ESL learner and a native speaker of English is an opportunity for the student to learn in the second language. Whether in the classroom, the playground, or the school hallway, the teacher provides the student with valuable information about the new language as well as feedback regarding the student's own language. In the classroom, the teacher can foster the development of forms and language proficiency related to literacy, particularly in the content areas. This type of language proficiency has been referred to as Cognitive Academic Language Proficiency (Cummins, 1980) and is essential in succeeding in an academic setting.

Classroom language has other beneficial effects: interactions between the teacher and the entire group of students have instructional value for the PEP students in that class. The students learn from listening to the teacher talk and to other students respond. Classroom interaction can have especially great value to PEP students if it is structured in such a way that students know what to expect both in terms of the content area being taught and the language that accompanies it (Simich-Dudgeon, McCreedy, and Schleppegrell, 1989). It is also important for PEP students to learn the language that accompanies classroom routines so that they may become fully functioning participants in the classroom.

Outside the classroom, a third role emerges for the teacher, that of the proficient English language user. As a proficient speaker of English, the teacher can provide a valuable model for PEP students that they may not get from their peers. Teachers can also provide students with valuable feedback regarding their language that they are also not likely to get from their peers. As feedback that PEP students receive from their English proficient peers may be rather critical and harsh, the teacher's contributions are helpful and timely. Outside the classroom, interactions between mainstream teachers and PEP students usually focus on the message rather than the form of language, making the situation more conducive to the development of communicative skills used in informal interpersonal relations (referred to as the Basic Interpersonal Communication Skills by Cummins, 1980.)

Teachers need to provide students with feedback about their language, but they need to do so indirectly and implicitly, avoiding the mere correction and replacement of the student's utterances. One useful method is to expand and extend what the student says. For example, if the student says: "I think so he no come to school today," the teacher might respond: "Oh, you think he didn't come to school today? Do you know why?" rather than focusing on the erroneous structures in the student's utterance. This gives the student the correct linguistic model and, as an important corollary, sends the message that the student's attempts at communication are accepted. (See Simich-Dudgeon, McCreedy, and Schleppegrell, 1989, for some useful guidelines for teachers in helping PEP students to communicate.)

The fourth role for the mainstream classroom teacher is that of a representative of the mainstream culture and a mediating agent in the socialization and acculturation of the student into the mainstream school community. In the case of students who come from a cultural background that is vastly different from that of the mainstream population, there is a need for developing and maintaining the social and cultural bridges between the students' home culture and that of the school (Ovando, 1989). Teachers can help PEP students who come from a cultural background that is different from that of the school by making the norms of the school culture as explicit as possible, but in a nonthreatening way. Students need time to learn about a new culture and will need even more time to adopt its norms. Also the adoption of a new culture does not need to occur at the expense of the native culture. Students need to feel proud of their own heritage to be motivated to learn and to be proud of their new second culture (Simich-Dudgeon, McCreedy, and Schleppegrell, 1989).

The mediation between cultures, that of the mainstream population and that of the linguistically diverse student populations, must be multidirectional. That is, members of the mainstream can also benefit from learning about the various cultures that PEP students represent. Teachers can play an extremely valuable role in creating a truly multicultural environment in their school by giving a prominent place to PEP students' culture in everyday school life. This means going beyond the annual multicultural food festival, or the occasional lesson about pi:atas. Creating a truly multicultural school milieu implies viewing every aspect of the curriculum from the perspective of other cultures. By doing so, PEP students, who are typically perceived as being in need of remediation, gain significant status as valuable resources.

A final and vital role for mainstream classroom teachers to play in the education of PEP students is that of an advocate. An advocacy-oriented attitude is essential in counteracting the potentially disabling process that many PEP students face in school (Damico and Hamayan, 1990). Some researchers argue that programs for linguistically diverse students have been less than successful because they generally have not significantly altered the relationship between educators and minority students and between schools and linguistically diverse communities (Cummins, 1986). Sociological analyses of schools (Ogbu, 1978; Paulston, 1980) suggest that students from "dominated" societal groups are either empowered or disabled as a direct result of how the school incorporates the students' language and culture; how the participation of the linguistically diverse community is encouraged; and how teachers and administrators become advocates for PEP students and begin to focus on their assets rather than their problems.

In the face of a disabling attitude which considers PEP students disadvantaged, with little esteem attached to their actual or potential bilingualism, students can experience a loss of control over their lives. This disabling attitude is exhibited in the label "limited English proficient" — the official and legal name for students with a primary language other than English whose proficiency in English has not reached a high enough level to allow them to survive in a classroom where English is the medium of instruction. This label focuses on the negative aspect of not being proficient in English rather than stressing the positive aspect of adding one language on to another and becoming bilingual. When faced with this type of negativism, students lose confidence in their cultural and linguistic identity as well as in their ability to learn, and this lack of confidence may have devastating effects on their academic life (Ovando, 1989). Advocacy is not a political stance as much as it is an outlook of professionals who work in the best interest of their clients — in this case, the students.

In addition to the five functions described in the preceding sections that pertain directly to PEP students, mainstream classroom teachers also play two indirect roles by collaborating and consulting with other teachers in the school. All teachers who come into contact with PEP students can provide to one another as well as to school administrators valuable information about the students in their classes. They can also share with one another information about their content area specializations.

The first of these two additional roles is that mainstream classroom teachers are a valuable source of information about a student's performance in the mainstream classroom. In many schools, the education of each student is in the hands of several teachers who do not often get a chance to talk to one another about individual students. Thus, the global picture of each student exists only on paper and remains fragmented and narrow in scope. It is important to make that picture as whole and as informative as possible by having all teachers who come into contact with a PEP student contribute information about that student.

Two issues are critical here: the information needs to come from multiple sources, that is, from as many teachers as possible; and it needs to be as understandable and as self-evident as possible. The need for multiple sources of information arises from the fact that a student's performance may vary significantly from class to class and from teacher to teacher. This call for understandable and self-evident data arises from the widespread, exclusive use of discrete-point and norm-referenced testing in schools. Data obtained from norm-referenced tests are often not sufficient by themselves to make informed decisions about instruction or placement.

A multiple-referenced approach to assessment (see Davidson, Hudson, and Lynch, 1985), which includes informal indices of behavior and performance in addition to the traditional norm-referenced testing is imperative. Teachers' judgments regarding students' ability to process and to use content specific language functions, as well as judgments concerning their general performance in class can yield valuable information for those who make placement decisions as well as for other teachers who have those students in their classrooms (see Hamayan and Perlman, 1990, for suggestions).

The second role concerns the mainstream classroom teachers' wealth of experience in teaching the various content areas in which they specialize. These teachers can well share those strategies and techniques, as well as the content of their instruction, with ESL teachers who have those students in their ESL classes. Despite research findings indicating the importance of integrating the instruction of ESL with content area subjects (Crandall, et al., 1988; Mohan, 1986), the focus of ESL classes in many schools remains independent of academic content areas. ESL teachers often teach their classes with little regard for the content area curriculum and only a vague idea as to how that curriculum is affecting their students. Mainstream classroom teachers can help ESL teachers incorporate content area topics into their ESL lessons by sharing with them their curriculum and key chapters from the textbooks they are using. In turn, ESL teachers can share their teaching strategies, specially designed for learning a second language, with the content area teachers. Teacher partnerships, discussed in a later section of this paper, are extremely beneficial for both ESL and mainstream classroom teachers.

Preparing for these roles is a challenging task for both the teachers themselves and the institutions of teacher education and training. Issues regarding the preparation of teachers at the preservice stage are discussed in the following section.

PREPARING FOR THE INSTRUCTION OF PEP STUDENTS AT INSTITUTIONS OF HIGHER EDUCATION

Preparing teachers for the education of PEP students is a difficult task even in the case of those who eventually end up as bilingual or ESL teachers. A recent survey conducted by the National Center for Education Statistics (McMillen, 1990) indicated that only 35 percent of bilingual and ESL teachers during the 1987-88 school year both majored and were certified in the field they taught. An additional 56 percent of the teachers did not major in either of the two fields but were certified in one of them; and about 7 percent of the teachers had neither majored nor were certified in their field.

It is not likely that teachers who are specializing in fields other than bilingual or ESL education are receiving much substantive training in the instruction of PEP students. An informal examination of material published by the leading organizations for staff development yields very little on the education of linguistically and culturally diverse students (see for example, Caldwell, 1989, and Joyce, 1990). A national survey (O'Malley, 1983) estimated that half of all public school teachers in the United States in 1980 either had PEP students in their classes or had taught them previously; yet only one teacher in seventeen had taken any courses in techniques for teaching ESL.

Therefore, there is reason for concern that teacher education programs are not meeting the needs of a large sector of students. In a recent initiative, led by the Carnegie Foundation, thirty institutions were asked to redesign their curricula based on the answers to five questions. Two of those questions dealt with linguistic and cultural diversity: how could the curriculum be made more accurate regarding different cultural, international, and gender perspectives? and what could be done to alleviate the shortage of minority teachers?

One option is to redesign the curriculum of teacher preparation programs to include at least one course that deals with the education of linguistically diverse students. This course would cover discussions of second language acquisition theory, definitions of bilingualism, sheltered content area instruction, and multicultural education. In addition to a course dedicated to language minority issues, redesigning the curriculum of a teacher preparation program to meet the needs of PEP students better would also entail adjusting all the core courses that constitute the program to address — even if briefly — issues of language minority education. For example, a course on reading in the secondary school curriculum would refer to special considerations for students who come from linguistically or culturally diverse backgrounds. Thus, teachers in training would not only focus on these issues in a special course but would have the opportunity to reflect on how to handle linguistically or culturally diverse students within the framework of mainstream education. Of course, such changes are only feasible and reasonable in programs which prepare teachers for urban and suburban schools, where there are concentrations of language minority students.

In lieu of focusing on the education of linguistically diverse students directly, however, teacher training programs in general would benefit greatly from a current trend evidenced in second language teacher education. In teacher training programs in which some consideration is given to the education of linguistically and culturally diverse student populations, there seems to be a shift in orientation from teacher training to teacher education (Richards and Nunan, 1990). This shift allows teachers to be actively involved in developing their own theories of teaching, in understanding the nature of teacher decision making, and in developing strategies for critical self-awareness and self-evaluation. These skills are generally and widely applicable in that they need not be specific to second language education, but rather they are skills that would enhance any type of teaching — or, indeed, any type of professional development (Schon, 1987).

Another way in which institutions of higher education can contribute to the preparation of teachers for the education of PEP students is by providing teachers with specialty certification or teacher approval. Because of the significant demand for bilingual and ESL teachers in urban and suburban districts, many mainstream classroom teachers are returning to universities to obtain additional certification or approval to become specialists in language minority education. In many states, certification or approval is needed by teachers who spend a significant amount of their time with PEP students. At present, thirty-three states and the District of Columbia have certification or endorsement and two states have pending certification legislation for ESL (Kreidler, 1987).

Specialization in ESL is necessary because being a fluent speaker of English does not ensure that a teacher is academically prepared or qualified to teach nonnative speakers (Kreidler, 1986). There are many differences between teaching English to those who already speak it well and teaching it to nonnative speakers. Similarly, there are vast differences between teaching science or geography in English to those who are fluent in English and teaching those subjects to students who are not proficient in English. In addition, certification for bilingual instruction is necessary primarily to ensure that the teacher is proficient in the language of instruction.

Minimum standards for certification, approval, or endorsement are set by each state individually. Generally, they include coursework in the study of linguistics as well as the pedagogy of teaching English as a second language. The state of Illinois has recently established and revised its requirements for ESL and bilingual teacher approval, and it may be helpful to describe these requirements briefly as an example. As of September 1985, in order to teach ESL, teachers who already have an elementary or secondary teaching certificate must show evidence of having taken eighteen credit hours in the following areas: theoretical foundations in language minority education, assessment of language minority students, methods and materials to teach English as a second language, crosscultural education, and linguistics. Teachers must, in addition, show evidence of 100 clock hours of clinical work with students who are learning English as a second language. Requirements for teachers who are applying for an approval for bilingual education are similar: eighteen credit hours are needed in the first four areas listed for ESL approval and a course in methods and materials to teach bilingual students instead of linguistics. In addition, bilingual teachers have to fulfill language requirements for the language in which they are approved to teach.

Although requirements such as these are quite extensive and encompass the major areas involved in teaching PEP students, they tend to fall short on two accounts. First, there is a marked absence of coursework on the development of literacy in English as a second language, a crucial factor in PEP students' success in school. Teachers, especially those specializing in ESL, need to make the development of literacy in English a continuing goal and an integral component of the entire curriculum. Second, the requirements tend to maintain an artificial separation of language and content. In the case of ESL certification, the absence of coursework on the instruction of content area subjects to students who are not proficient in the language of instruction may lead to a lack of integration between the instruction in language and that in academic content. As a result, teachers who perceive themselves primarily as ESL teachers may not see the instruction of academic content areas as their domain.

Certification may meet the needs of the small proportion of mainstream classroom teachers who wish to specialize in either ESL or bilingual instruction. Yet the majority of mainstream classroom teachers who come into contact with PEP students are simply that: they are teachers whose classrooms include primarily English proficient students from the mainstream along with a few students who are learning English as a second language. For those teachers, inservice assistance is likely to be a more effective staff development approach.

HELPING MAINSTREAM TEACHERS THROUGH STAFF DEVELOPMENT

Staff development has recently received much attention as a crucial factor in creating an effective school environment (Caldwell, 1989). Research indicates that significant school improvement results from staff development and that staff development is an important corollary to change in the culture of a school (Goodlad, 1987). Effecting change in school personnel leads to such improvements as increases in student achievement, improvement in attitudes, and growth in skills. As the linguistic and ethnic makeup of student populations increases in diversity, the need becomes urgent for high quality staff development, which promotes an understanding among teachers and administrators of issues in the education of PEP students.

Some general assumptions and research findings regarding effective staff development practices (Caldwell, 1989) will help establish a framework for training teachers who have PEP students in their classrooms. First, a successful staff development program involves and benefits everyone who influences students' learning. This development is especially germane to mainstream classroom teachers who have PEP students in their classrooms. For a long time, the mainstream has perceived the education of PEP students to be the sole responsibility of specialized teachers such as the ESL or bilingual teacher. Positive leadership from mainstream classroom teachers has been shown, however, to be a crucial factor in effective programs for PEP students (Carter and Chatfield, 1986). In as much as the education of PEP students is an integral part of a school's goals and objectives and in as much as the specialized strategies which are known to be effective for PEP students are also effective for the general student population, staff development focused on the education of PEP students and offered to mainstream teachers is vital for any school that has even a few PEP students.

Second, individual teachers and schools engaged in successful staff development programs have the inherent responsibility to define and achieve their own excellence (Caldwell, 1989). Research on effective schools (Edmonds, 1979) indicates that one of the characteristics of successful schools is the autonomy which the school leadership and staff possess in determining the exact means by which they address the challenge of increasing student academic performance. The belief that the responsibility for excellence rests at the school site and within the classroom has strong implications for how staff development is planned, conducted, and evaluated. Teachers need to take an active part in all phases of staff development, including implementation. A model of staff development which incorporates the idea of teachers coaching teachers is suggested in a later section of this paper.

A Framework for Analyzing Staff Development: Context

Staff development can be considered to consist of three organizing components: context, content, and process (Sparks, 1983). Context is the environment in which staff development takes place; it concerns the "why" and "where." The "why" refers to the perceived need for staff development in the area of PEP student instruction. Although this need may fall within larger district goals or initiatives and although the mission of the larger district sets the stage for the staff development program at the local school level, it is important that the need be perceived locally and that any staff development be planned to address that need directly at the local school level. The "where" refers to the location and the locus of control of the staff development activity, for example, the department, the school, or the district itself.

Many contextual factors contribute to the effectiveness of a staff development program; for example, a district's policies regarding staff release time or funds for substitute teachers, or resource allocations for various types of staff development needs which demonstrate commitment to long-term growth in a specific area (Caldwell, 1989). The education of PEP students has typically not been a high priority item in many districts' staff development plans although with the growing presence of linguistically diverse students in schools, it is becoming more of an urgent need for many school administrators and teachers.

The Content of Staff Development for the Education of PEP Students

The second organizing component of a staff development plan is content. The content of any professional growth activity should be based on research and validated in practice (Caldwell, 1989). The last decade has witnessed an abundance of research on second language learning and teaching, resulting in a multitude of classroom strategies and practices. Four major areas are relevant to mainstream classroom teachers with PEP students: second language acquisition, bilingualism, sheltering instruction, and grouping of students. These are reviewed in the following sections.

Second Language Learning

Unlike first language acquisition, learning a second language is often fraught with difficulty. Beginning learners constantly make errors in producing and comprehending the second language, and they invariably have difficulty processing information presented in that language. Even under the best of circumstances, this state of apparent "incompetence" may last as long as six years (Cummins, 1980). In addition, many who attempt to learn a second language are unable to do so. Students differ considerably regarding the ease with which they are able to attain proficiency in a second language, and many individual learner characteristics underlie success in learning a second language. Among these characteristics are cognitive factors such as learning and perceptual styles (Tucker, Hamayan and Genesee, 1976; for a review of the minor role that intelligence plays, see Genesee, 1976); affective and personality factors such as attitudes, motivation, and personality traits (Gardner and Lambert, 1972; Tucker, Hamayan and Genesee, 1976); and, most important, the student's proficiency in the first language, such that a threshold level of proficiency is necessary in order for second language learning to occur optimally (Cummins, 1980).

Awareness of these aspects of second language learning will shape a mainstream classroom teacher's expectations of a PEP student. Many teachers do not realize just how long it takes for a student to become proficient enough in English to survive in a classroom where English is the language of instruction. Preliminary research suggests that it may take from four to eight years for PEP students to reach national grade-level norms of native speakers in language and academic subject areas (Collier, 1987). A teacher who is not aware of the length of time it takes a PEP student to become proficient in English may have higher expectations of that student than are warranted and may put more pressure to perform than is necessary on that student. This is not only likely to raise the student's anxiety, but it also turns the context from one in which students' achievements are emphasized to one in which students' failures are highlighted.

Another aspect of the process of second language learning which is important for mainstream classroom teachers to understand involves the treatment of errors that second language learners make. When a second language emerges naturally, errors are likely to occur and are a necessary part of the language learning process. As PEP students attempt to communicate in English, their language production reflects an internal language system which consists of a hybrid of differing language systems. This interlanguage (Selinker, 1972) results in the production of English that is not like the English of native speakers but only approximates it. The development of this interlanguage, however, is a normal and systematically predictable stage of acquisition and not a case of poor or impaired English language learning.

The expectation that many mainstream classroom teachers have for PEP students to produce near perfect sentences in English as a second language is far from realistic. Rather than try to stop PEP students from making errors in English, teachers can actually make use of the valuable information that errors in the second language represent. Errors are clues to the language learning processes and language use strategies applied by the student and can be used to provide the student with a better linguistic environment.

Bilingualism

The second major area of which mainstream classroom teachers need to develop an awareness involves the definition and types of bilingualism, including an understanding of language proficiency. Language proficiency is a complex, multi-faceted, multi-leveled and variable phenomenon. Mainstream classroom teachers need to be particularly aware of the independence of two types of language proficiency — the basic interpersonal communication skills and a more abstract cognitive academic language proficiency (Cummins, 1980). Many PEP students in mainstream classrooms may have attained the social skills in English and may on the surface appear to be proficient; however, if their proficiency in the more cognitively demanding skills which are so crucial for success in an academic setting is not adequate, they are likely to encounter difficulties in content area classes.

This complexity makes discussions of bilingualism equally complex since the measure of a speaker's language proficiency in each language is the defining factor in describing that individual's bilingualism. Because of this complexity and because only some people who attempt to learn a second language actually become highly proficient in it, the term "bilingualism" typically refers to different levels of proficiency in the two languages involved. Different types of bilingualism are possible. One type of bilingualism is exemplified by the learner who has attained an equal level of proficiency in more than one language, referred to as "balanced bilingualism." This type of bilingualism is the exception rather than the rule because it is more likely for bilinguals to have one dominant language, that is, to have a higher level of proficiency in one language or, more specifically, in some aspects of one language. Mainstream classroom teachers' expectations of PEP students in the content areas can be affected and even defined by their knowledge of bilingual proficiency.

The attainment of proficiency in two languages also manifests itself in different ways. When a second language is learned after the speaker has acquired the first, two types of bilingualism may occur — "additive" or "subtractive" (Lambert, 1977). In additive bilingualism, learners who have attained the expected level of proficiency in their first language simply add on a second language to their existing repertoire in the first language. In contrast, in subtractive bilingualism, the development of proficiency in the second language has inhibiting and sometimes detrimental effects on the first language. Subtractive bilingualism may even result in skills that are below expected levels of proficiency in both languages, especially in academic areas — a state that some researchers refer to as "semilingualism."

To ensure that semilingualism, which has detrimental effects on a student's emotional, cognitive, linguistic and academic development (Paulston, 1980) does not occur, schools must promote additive forms of bilingualism, and the burden of responsibility rests with mainstream classroom teachers and administrators. The educational strategy that best overcomes subtractive bilingualism and the resulting semilingualism is that of valuing and allowing the development of the students' native languages (Cummins, 1986).

A factor which underlies the success or failure of a school in preventing subtractive bilingualism is the attitude that prevails in the school not only toward PEP students but also toward bilingualism and toward the various native languages that coexist in that community. Teachers' attitudes toward students have been clearly shown to be a strong predictor of student success (Rosenthall and Jacobson, 1989). Teachers' ability to see the potential in PEP students, rather than their limitations, is bound to be a crucial factor in students' academic success. The value that is placed on being bilingual and having access to two languages helps set a tone for the entire school milieu that promotes achievement for all students and not only for those who belong to the mainstream population.

Many programs for PEP students tend to isolate and to label students, both restricting the range of instruction and slowing its pace (Perlman, 1990). In addition, they tend to suppress the student's native language, often with the excuse that it is not feasible to teach the various native languages because of lack of resources. School culture research suggests, however, a more ecological understanding of how students with a primary language other than English learn. For example, the native language has more than just an instructional role. Its use confers status and suggests value and power. When the student's native language is placed in high esteem, the student's own self-esteem is bound to improve. Parents are also more likely to become involved in their children's education if the use of the native language is valued, especially by the mainstream teaching staff. Parents can then take a collaborative role with the school not an exclusionary one.

Thus, mainstream classroom teachers need to develop an awareness of how a second language is learned and of the different types of bilingualism that may result, so that their expectations of PEP students' performance are realistic. Their attitudes toward bilingualism and their openness to other cultures are crucial in setting up students for success rather than failure in school.

Sheltering Instruction

The third domain in which mainstream classroom teachers need to develop their skills concerns actual teaching strategies and approaches. Sheltering instruction refers to an adaptive teaching strategy to present content area material to PEP students through a variety of established ESL techniques to make the material more meaningful. The technique of presentation, not the content, differs from that of regular instruction. Sheltered instruction techniques include frequently using illustrations and manipulatives, drawing students' attention to key words in the text, relating new material to students' experiences, making hands-on activities rather than the teacher the center of the classroom, and employing cooperative learning techniques (see Hamayan and Perlman, 1990 for practical suggestions for modifying and sheltering instruction).

The impetus for using sheltered instruction techniques results from the difficulty that PEP students encounter in the mainstream classroom in processing abstract, cognitively demanding information in English. By means of sheltered instruction, abstract content area material is taught through context-rich language, through active participation, and by building on students' own experiences. When teachers make an effort to modify their instruction in this way, they become conscious of the fact that PEP students are developing their language at the same time as they are developing concepts (Parker, 1985). This integration of language and content allows for a more efficient development of the second language. It also changes the way that both ESL and mainstream classroom teachers perceive themselves and their roles vis-a-vis PEP students. ESL teachers are, at least to some extent, responsible for teaching PEP students the mainstream curriculum, and mainstream classroom teachers are, in part, responsible for fostering second language development.

Grouping of Students

Ability grouping has received much attention recently. It has come under attack, and in its place cooperative learning — in which small heterogeneous groups work on a task — has gained widespread support. Because PEP students bring a special kind of heterogeneity to the classroom, they need special attention in grouping decisions. Although some ability grouping seems inevitable and may actually be instructionally effective, the psychological drawbacks of segregation and labeling may offset any advantages. Students considered slow or low ability — and PEP students are likely to be misperceived as being in that category because of their limited proficiency in the language of instruction — are in danger of doing little other than practice boring repetitive drills which focus on isolated skills. In addition to stripping the process of learning of its joy and excitement, the tasks that are typically given to low-ability groups are likely to set students up for failure.

The research on grouping dispels the notion that grouping students by ability will help in their academic achievement or that students need to learn with others who are just like them. In cooperative grouping, students of different levels are assigned roles which encourage them to work interdependently on a specific task given by the teacher. Cooperative grouping has been shown to be an effective classroom management technique that promotes learning among heterogeneous groups of students (Slavin, 1981). Cooperative groups are heterogeneous both linguistically and in reading or ability level. Thus, rather than group all PEP students together and have them work under the direction of an instructional aide, PEP students are mixed in with mainstream English proficient students; students who are having difficulty reading the textbook work alongside those who are reading at or above grade level. Because a specific role is assigned to each student, cooperative grouping is especially beneficial to PEP students: these students can be an integral part of any small group by virtue of the responsibility they are given.

Mainstream classroom teachers not only need to be well versed and feel comfortable with cooperative grouping, but they also need to trust their students to be each other's guides. They have to believe that PEP students, who are "limited" in only one way, are not taking away from other students' learning and advancement. Teachers need to be aware of the fact that the tutoring that goes on in a cooperative group is also quite beneficial to the tutor (Heath, 1990). Teachers' beliefs regarding the potential contribution that PEP students can make in the classroom, as well as other students' attitudes toward PEP students are crucial factors in setting up a successful cooperative learning environment.

The Process of Staff Development

The process of staff development refers to the "how." Staff development programs for the growth of the district, school, or individual are planned, delivered, and evaluated using a variety of strategies and designs. These designs have changed significantly in the last decade, moving away from a traditional format in which teachers receive information given by an "expert." Research on staff development (Joyce and Showers, 1982) has indicated that the presentation of theory alone in inservice programs guarantees that only 5 to 10 percent of the teachers will apply the new skills in their classrooms. If, however, the presentation of content is followed by demonstration, practice, and individual coaching, 90 percent of the teachers apply the new skill.

Staff development has thus moved toward a teacher-centered structure in which teachers collaborate with administrators and with each other to plan staff development, and they coach each other on specific aspects of teaching. Collaboration among teachers, both in the planning phase and in the training phase, provides one of the cornerstones of school restructuring (Joyce, Murphy, Showers, and Murphy, 1989). Among the recommendations arising from school restructuring efforts is a call for allowing teachers to spend more time with their peers both in the classroom and outside the classroom. Unfortunately, most school districts still engage in top-down planning, and while teachers in most districts can get time off for staff development workshops, they cannot get time off to visit a colleague's classroom.

Coaching, in the context of staff development, refers to in-class training by a supportive peer who helps the teacher correctly apply skills learned in a workshop. Coached teachers experience significant positive changes in teaching behaviors, given an appropriate peer coaching staff development program which ensures accountability, support, companionship, and specific feedback over an extended period of time. Coaching is an ongoing process which involves a training stage followed by various extensions of that training. Extensions include a mutual examination by peer partners of the appropriate use of a new teaching strategy, joint planning of experimental lessons by the two teachers, experimenting in the classroom with the coach observing, the pair of teachers processing the teaching event, and the coach giving specific feedback to the teacher.

Teachers who work with PEP students can benefit greatly from a staff development model which incorporates peer coaching (Kwiat, 1989). On the one hand, ESL and bilingual teachers often experience isolation and alienation from their mainstream classroom peers. On the other hand, mainstream classroom teachers who have PEP students in their classrooms are at a loss as to how to reach those students. They may not have the training they need in order to shelter instruction or to manage a classroom with linguistically heterogeneous groups. A peer coaching program helps bilingual/ESL teachers and mainstream teachers form collegial relationships. Mainstream teachers can most easily learn new knowledge and skills and can learn to apply these strategies to their classroom activities from those peers who are more experienced or more extensively trained in PEP education. By experimenting with specific skills and experiencing success through coaching, mainstream classroom teachers are not only able to improve their teaching in such a way that all students benefit, but they also develop a more positive outlook toward having PEP students in their classrooms (Kwiat, 1989).

An Innovative Approach to Staff Development

Innovative approaches to staff development are being established in school districts where the education of PEP students forms an integral part of the general school program. One of these approaches entails the teaching of a language other than English to any staff members who are interested. The language of choice is usually the native language of the majority of PEP students, and it is offered to teachers, administrators, and support staff, including secretaries, bus drivers, and maintenance personnel. The language course is taught with several main goals in mind. First, participants develop an elementary proficiency in the language: they learn to feel comfortable with the language and they develop a proficiency in the everyday interpersonal communication skills, especially those involving school themes. The content of the course is tailored to individual participants' needs, so that a secretary might learn to use specific aspects of communication that are different from those that a teacher or a principal might learn. Second, participants develop an awareness of what it is like to be nonproficient in a language and are directed to undergo self-examination and reflection. Third, participants are directed to focus on the methods that are being used to teach the language and to reflect on applications to their own students. Finally, in the short time that they spend learning the language, participants develop an awareness of the culture(s) represented. Most important, the status of at least one of the minority languages present in the school is raised and, indirectly so is the status of other minority languages. In this model, PEP students are seen as a resource rather than a burden to the mainstream classroom teacher, a state that will benefit both student and teacher.

Recommendations and Conclusions

The importance of preparing mainstream classroom teachers to teach PEP students cannot be underestimated. For too long, the education of PEP students has been perceived as the domain of only a small group of specialized individuals, namely ESL and bilingual teachers. This has often led to the isolation of PEP students from the rest of the school and to the provision of a separate curriculum to those students. This isolation and separation of curriculum are not conducive to effective education; it is time to extend a formal invitation to the mainstream to join in the efforts to provide quality education to all students, including those who have the potential to become proficient in English in addition to their native language.

The following recommendations emerge from the issues discussed in this paper. First, mainstream classroom teachers need to become aware of the important role that they play in shaping the lives of PEP students. They need to see themselves as mediators, language models, cultural guides, and advocates of PEP students. They need to explore ways in which they can play these roles in a way that is most comfortable for them and most beneficial to their students. Second, mainstream classroom teachers must be given a more vital role in the daily assessment of PEP students and in the sharing of their specialty with bilingual and ESL teachers. Third, institutions of higher education which prepare teachers can redesign their curricula, albeit slightly, so as to address general issues of the education of students with specialized needs, including those who are potentially English proficient. Fourth, state education agencies, in collaboration with the institutions of higher education, must provide ample opportunities to mainstream classroom teachers who wish to become specialists in the education of PEP students by establishing programs which lead to certification or approval in that field. Fifth, district administrators must offer mainstream classroom teachers a wide array of staff development activities which revolve around the education of PEP students. These can include training in theoretical areas such as second language learning and bilingualism, as well as practical suggestions for sheltering instruction, integrating the teaching of content areas and English as a second language, and grouping students in classroom management. It is recommended that the training be teacher-driven, as is the case with a peer coaching model of staff development.

One of the key elements that contribute to the success of a staff development model such as the one described in the preceding section is the fact that it involves more than just the teachers who come into contact with PEP students in the school. The research on effective schools, the conceptualization of school as a vital community with a distinct culture, and what we know about changing that culture indicate that we can no longer treat teachers as an isolated group of individuals completing a set of isolated tasks in an isolated physical environment. School is a thriving network of arteries that are interconnected and dependent on one another. In order to change the school environment, we need to take a holistic approach to staff development: the provision of services to PEP students is a complex system that consists of various players. Teachers are but one, albeit the most important, of those players. The school principal, support and ancillary staff, bus drivers, and building engineers all form part of the education of students, and they must be included in even the most routine staff development activities.

By preparing mainstream classroom teachers to teach PEP students we will in effect be changing the school culture for the betterment of all students. When teachers are allowed to see bilingualism as a goal to achieve — a solution — rather than a problem to overcome, the school environment becomes an optimal ground for learning, achievement, and success.

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DEMAND, SUPPLY, AND SHORTAGE OF BILINGUAL AND ESL TEACHERS: MODELS, DATA, AND POLICY ISSUES

Erling E. Boe

INTRODUCTION

By the few available measures there was a serious shortage of qualified teachers in the field of bilingual education in the early 1980s — more so, apparently, than in any other teaching field. No recent data have been reported to suggest this circumstance has changed during the intervening years. Beyond these general observations there is little specific knowledge from a national perspective about the sources of supply of and the demand for bilingual and ESL teachers (BETs). Even such a basic datum as the number of limited English proficient (LEP) students, one of the elements in teacher demand computations, is subject to estimates that range from about one to five million (Council of Chief State School Officers, 1990; Macias, 1989). In addition, bilingual education is a complex field with a wide range of instructional approaches, each with different implications for specific teacher qualifications (Bennett, 1988; Wolfson, 1989). This is another important element in teacher demand computations. Until recently no national data base of BETs has been available to support refined supply and demand research in this area. Perhaps for these reasons, no comprehensive attempt has been made to analyze the teacher work force in bilingual education in terms of a supply and demand model from a national perspective. The general purpose of this paper is to begin this task now that a refined data base on the national teaching force, including BETs, is available. More specific purposes are defined in the following paragraphs.

Models

The phrase "teacher supply and demand" encompasses several related concepts such as teacher/student ratio, retention, transfer, and attrition, as well as several sources of supply and several indices of demand. The gross difference between teacher demand and supply defines a shortage or surplus. However, these quantities are conditioned by teacher characteristics such as professional qualifications, racial/ethnic background, multilingual fluency, gender, and age. For example, the amount of teacher shortage depends on how it is specified. There may not be an absolute shortage of mathematics teachers, but there may be a shortage of mathematics teachers with an undergraduate major in mathematics, who are members of a minority group, or who are fluent in a language other than English. The first purpose of this paper is to review and extend models within which useful distinctions such as these can be made in the analysis of the teacher demand, supply, and shortage (TDSS) and to describe sources of data which can be used to quantify terms included in this framework.

Data

A major policy concern in precollegiate education is the supply of fully qualified teachers. Discussion of teacher shortages over the past decade has focused on science and mathematics teachers, though it has also been widely recognized that serious shortages of fully qualified teachers also exist in bilingual/ESL education, special education, and foreign languages. Based on 1983-84 national survey data, Sietsema (1987), for example, reported a higher teacher shortage in bilingual education than in any other teaching field. Based on a different survey, Akin (1988) similarly concluded that bilingual education was a field of considerable teacher shortage during the mid-1980s. In a recent literature review, Macias (1989) projected a 48 percent shortage in California in 1990 but interpreted national trend data as giving hope that parity between demand and supply could be reached nationally. Given the importance of the teacher shortage problem to the field of bilingual education and the disparate data available, a second purpose of this paper is to review and interpret from a national perspective published data on the demand, supply, and shortage of BETs within TDSS models presented.

Until recently comprehensive national data on TDSS have been lacking for all teaching fields. Recently, however, a wealth of data from the 1987-88 Schools and Staffing Survey (SASS) and its companion, the 1989 Teacher Followup Survey (TFS), both of the National Center for Education Statistics (NCES), has made possible the study of a variety of factors involved in TDSS. Because the size of the sample of BETs included in this survey was substantially increased by a supplement funded by the Office of Bilingual Education and Minority Languages Affairs (OBEMLA), more detailed study of TDSS in this field is possible than would otherwise have been the case. Since little is presently known about BETs from a national perspective, a third purpose of this paper is to present preliminary data on BETs from this supplemental sample.

Policy Issues

The effectiveness of bilingual education and ESL is dependent, in major part, on a supply of fully qualified teachers sufficient to meet specific teacher demands in various languages, grade levels, and geographic regions. The final purpose of this paper is to review policy issues entailed in insuring a sufficient supply from a variety of sources such as newly graduated teachers, retention of qualified teachers, transfer of teachers from other fields, entrants from the reserve pool, and entrants to the profession by alternative routes. Research opportunities to shed light on such policy issues from studies of national data bases, especially SASS and TFS, will be outlined.

TEACHER DEMAND, SUPPLY, AND SHORTAGE (TDSS) MODELS

Teacher demand, supply, and shortage have been the subject of considerable conceptual analysis and research during the past decade. Two recent and very helpful analyses are by Haggstrom, Darling-Hammond, and Grissmer (1988) and Gilford and Tenenbaum (1990). While the approach to TDSS described here borrows extensively from these sources, it elaborates upon them and also includes development of original teacher transfer and attrition concepts applicable to assessing these phenomena nationally. Accordingly, the purpose of this section is to review and extend TDSS models applicable to analyzing the teaching force in bilingual and ESL education as well as in other teaching fields. The main elements of the approach presented here, considered in order, are (a) alternative definitions of teacher demand, (b) sources of teacher supply, (c) estimating teacher shortage, (d) attrition as the major source of teacher shortage, and (e) other important factors influencing TDSS.

This TDSS framework is national in the sense that it provides for an overall national perspective and for state (or regional) perspectives individually and in relation to each other. It focuses specifically on precollegiate public education but can easily be elaborated and generalized to include private education.

National data quantifying elements of TDSS models can be obtained from several sources, as described in Appendix A. The 1987-88 Schools and Staffing Survey (SASS) of the National Center for Education Statistics (NCES) is now the major source of comprehensive data.

Teacher Demand

Teacher demand is the first component of TDSS models to be considered because it defines the need for a supply of teachers. Demand itself is defined by different variables depending on which of two main model types is used. Smull and Bunsen (1989) described (a) a Prevalence-Based Model, in which demand is driven by the size of the student population and a prespecified teacher/student ratio and (b) a Market-Based Model, in which demand is driven by the number of funded teaching positions.

According to the prevalence model, the total demand for teachers is defined as the number of students divided by a predetermined teacher/student ratio. In practice this ratio is set by policy makers and is constrained by a local education agency's (LEA) ability to fund teaching positions. Others, such as advocacy groups and researchers, may set any ratios they deem appropriate. Therefore, under the prevalence model, estimates of teacher demand depend upon the assumptions made by the source reporting it and may vary widely. An example of the prevalence type currently in use is the MISER Model (Coelen & Wilson, 1987).

In contrast to the Prevalence-Based Model, the Market-Based Model defines the total demand for teachers as the number of full-time equivalent (FTE) teaching positions approved and funded, usually by LEAs. Estimates of teacher demand under the market model require empirical data and should not vary greatly from one source to another if definitions of teaching positions are comparable and data of reasonable quality are available. An example of the market type currently in use is the New Hires Model (Lauritzen, 1989).

Estimates of total demand for teachers for LEAs, particular states, or the nation as a whole are not particularly helpful, however. Useful estimates of teacher demand, whether computed by either the prevalence or the market approach, should be stratified by teaching field, instructional level, geographic location, and teacher qualifications required (e.g., type of certification, fluency in a language other than English, etc.). Ideally, total demand would be the aggregate of the specific demand for teachers in all these strata.

Teacher Supply

Teacher supply is the second component of TDSS models. It constitutes the response to the need for teachers as determined by computations of teacher demand. From a national perspective the sources of total teacher supply in any year are:

1. experienced teachers continuing from the previous year;

2. new teachers entering the profession from three sources —

    a. recent college graduates,

    b. the reserve pool, and

    c. entrants via alternative routes;

(In any one year the main source of teacher supply is experienced teachers continuing from the previous year. This large stable group is augmented each year by a supply of new teachers that, from a national perspective, comes mainly from two sources. The first is individuals who graduate from college in the previous year; the second is the reserve pool composed of experienced teachers and inexperienced certificate holders who have delayed their entry to teaching. A third, as yet minor, source of new teachers is the entry of educated and experienced individuals into teaching via "alternative routes." These are individuals who do not have standard teacher preparation, but receive some preservice and, usually, intensive inservice preparation for teaching. State and federal policy is currently moving aggressively in the direction of enlarging this source of new teacher supply.)

3. Viewed from a local (as distinguished from national) perspective, there is the following additional source of "new" teachers in any year:

   transfer of active teachers to one school from another or to one teaching field from another.

This source is here termed "transfer supply" and is broken down into two main factors: (a) school transfer and (b) teaching field transfer. For example, the supply of new mathematics teachers in a particular school may include school transfer in which a mathematics teacher from a different school transfers in. Likewise, the supply of new mathematics teachers in a particular school may include teaching field transfer in which a chemistry teacher changes to a primary assignment in mathematics. It is also possible for a new mathematics teacher in a particular school to have transferred simultaneously from a different school and from a different teaching field.

From a national perspective, of course, transfer supply does not add to the total supply of active teachers; it merely reshuffles the deck. The total body of teachers that continues from one year to the next undergoes some resorting in the field nationally. Most remain in their same positions in their same schools, while others transfer to new schools or to different teaching fields. All these possibilities for continuing teachers are illustrated here in Table 1. The column totals represent the national teaching force, by subject matter field, during the current year (1990-91), which continued from the prior year (1989-90). The rows represent the input sources of these teachers according to their location and teaching field from the prior year (1989-90). The large group of teachers that remains in the same teaching assignment (i.e., in the same school and subject matter) from one year to the next is classified in the diagonal cells (marked by X) of the first horizontal block (same school), while teachers classified in all the other cells of the table represent transfers to a different school and/or a different teaching field from one year to the next. It is this latter group that represents transfer supply. By inspecting the columns for subject matter fields, one can observe the pattern of transfer supply from one location and/or teaching field to another. It should be noted that newly entering teachers in 1990-91 are not represented in this table.

Table 1

Two-Factor Framework for Teacher Transfer Supply

Transfer Supply: School Site Factor (1989-90)	Subject Matter Field (89-90)	Transfer Supply: Subject Matter Field (1990-91)				
		Read	Math	Bilg	TESL	SpEd
1. Same School	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
2. From Different School: Same District	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
3. From Different School: Different District In-State	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
4. From Different School: Different District Out-Of-State	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
5. TOTAL Teachers:	1990-91 >	___	___	___	___	___

NOTES:

1. Diagonal cells (Xs) represent stability from year-to-year in subject matter field, while the off diagonal cells in a column represent transfer supply from different fields.
2. Teachers classified in the diagonal cells (Xs) of "Block 1: Same School" represent the large stable teaching force which continues to teach in the same field in the same school.
3. Teachers classified in Blocks 2, 3, and 4 during the prior year (1989-90) represent sources of transfer supply from different school sites. Those classified in off diagonal cells of these blocks represent combined subject matter field and school site transfer supply.
4. Five subject matter areas have been selected here to illustrate the teaching field transfer supply matrix. Since SASS identifies 32 distinct primary teaching fields, a much larger matrix with up to 27 additional fields can be analyzed.

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Estimates of the total supply of teachers from all sources is of limited utility, however. Just as teacher demand should be stratified by teaching field, instructional level, geographic location, and various indices of teacher qualifications, so should estimates of teacher supply. To determine how well the supply of teachers meets the demand for teachers, it is vital to be able to match demand within strata with supply within strata. Realistically, the best estimate of total teacher supply is the aggregate of the specific supply that meets the specifications for the specific demand for teachers in all these strata.

Teacher Shortage

Teacher shortage is the third element to be considered; it is defined by the difference between the demand for and the supply of teachers. Just as estimates of teacher demand and teacher supply should be stratified by teaching field, instructional level, geographic location, and various indices of teacher qualifications, so should estimates of teacher shortage. Relevant national data bases, such as SASS, do this. For example, the demand for teaching positions stratified by field, level, and region can be subdivided into satisfied and unsatisfied (i.e., shortage) demand, as follows:

1. Satisfied Demand for Fully Qualified Teachers -
   total full-time equivalent (FTE) teaching positions filled by teachers holding regular or standard state certification in their fields of assignment[1] and

2. Shortage of Fully Qualified Teachers -
   the number of FTE teaching positions accounted for by less than fully qualified teachers, as follows —

   a. the number of FTE teaching positions filled by teachers holding probationary, provisional, temporary, or emergency state certification in their fields of assignment[2]

   b. the number of FTE teaching positions filled by substitute teachers or left vacant

   c. the number of FTE teaching positions withdrawn or converted to some other subject matter because a suitable candidate could not be appointed.

As indicated above, the definition of a teacher shortage is determined in large part by the qualifications of available individuals, which in practice is determined in large part by their certification[3] status. In using certification status to establish whether or not a teacher is fully qualified, it is important to be specific with respect to three necessary conditions: (a) the type of certification, (b) the field of certification, and (c) the field of teaching assignment. Thus, satisfied demand (i.e., the absence of shortage) exists only to the extent that a regularly certified teacher is actually assigned to a teaching role in her/his field of certification. This should be distinguished from the following similar, but misleading, definitions of the supply of bilingual teachers (none of which simultaneously satisfies the three necessary conditions):

1. the size of the national pool of teachers certified in bilingual education - ignoring whether or not fully qualified (as defined above) and ignoring whether or not actually teaching
2. the number of fully qualified bilingual teachers who are actually teaching, ignoring whether or not teaching bilingually; and
3. the number of certified bilingual teachers who are actually teaching bilingually, ignoring whether or not fully qualified.

Though these quantities may be interesting and useful for some purposes, they do not reflect the actual supply of qualified bilingual teachers and should not be used to compute teacher shortage.

In defining teacher shortage, it is, therefore, important to distinguish between a shortage of fully qualified teachers, as defined above, and a shortage of certified teachers who may or may not be fully qualified. This definition of a qualified teacher is used here in examining the problem of bilingual and ESL teacher shortage.

Attrition: The Major Source of Demand for New Teachers

Teacher attrition is the fourth element in TDSS models and is the largest contributor to demand for new teachers. It is important, usually on an annual basis, to distinguish between satisfied and unsatisfied demand. The latter defines teacher shortage and drives teacher recruitment activities. While the measurement of overall teacher shortage is relatively simple, the causes of shortages, especially shortages in specific teaching subject areas and in particular localities, are complex. The sources of demand for new teachers are commonly identified as increments in student enrollment, decrements in the teacher/student ratio, and teacher attrition; teacher attrition is by far the dominant consideration (Haggstrom, Darling-Hammond, and Grissmer, 1988).

Teacher attrition itself is a complex phenomenon which has been analyzed and modeled by several researchers (e.g., Grissmer & Kirby, 1987). Existing attrition models, however, are not sufficiently broad to account for all variations in type of attrition and, therefore, to accommodate relevant data recently available from the 1987-88 SASS and its Spring, 1989 companion, the Teacher Followup Survey (TFS). These data bases make possible the first extensive analysis of teacher attrition from a national perspective. To capitalize on these data, we have formulated an analytic framework termed the "Comprehensive Attrition Model" (CAM) outlined next[4].

In CAM, teacher attrition is first subdivided into two basic types:

1. transfer attrition, which refers to teacher transfer between teaching fields and/or schools;
2. exit attrition, which refers to exit from the teaching profession for some other activity.

The first basic type, transfer attrition, is subdivided into two factors: (a) transfers between teaching fields and (b) transfers between schools. The main components of each transfer factor are as follows:

1. Teaching Field Transfer involves either -
    a. transfer within one field of teaching (e.g., transfer from biology to chemistry in science education or transfer from bilingual to ESL); or
    b. transfer from one field to another (e.g., transfer from special education to science education).
2. School Transfer involves either -
    a. transfer to a different school in the same district; or
    b. transfer to a school in a different district in- state; or
    c. transfer to a school in a different district out-of-state; or
    d. transfer to a private school.

This two-factor framework for transfer attrition can best be concertized as a two-dimensional table with blocks of rows defined by four levels of school transfer and the columns defined by teaching fields, as shown in simplified form in Table 2[5]. In all, SASS provides sufficient data on a substantial variety of different teaching specializations and, therefore, makes possible the comprehensive analysis of transfer attrition described here.

In Table 2 the column totals represent the national teaching force, by subject matter field, during a prior year (1989-90), which continued in teaching during the subsequent year (1990-91). The rows represent the destination of these teachers in terms of their school location and subject matter field in the current year (1990-91). The large group of teachers that remain in the same teaching assignment (i.e., in the same school and subject matter) from one year to the next is classified in the diagonal cells (marked by X) of the first horizontal block (same school), while teachers classified in all the other cells of the table have transferred to a different school and/or a different teaching field from one year to the next. It is this latter group that represents transfer attrition. By inspecting the columns for subject matter fields, one can observe the pattern of transfer attrition out of one location and/or teaching field to another. It is important to note that teachers exiting the profession after the 1989-90 year and new teachers entering the profession for the 1990-91 year are not represented in this table.

From a national perspective, of course, transfer attrition does not detract from the total supply of active teachers. Transfer attrition from one school or teaching field to another represents transfer supply to the receiving school or field. It is, therefore, useful to compare Table 2 (Teacher Transfer Attrition) with Table 1 (Teacher Transfer Supply) because each organizes the transfer phenomenon from a different angle. The enormous advantage of tracking these teacher transfers from national survey data is that cross-district and state transfers are identified as such. From district or state data, out-transfers may appear to be exit attrition instead of transfer attrition.

In contrast to transfer attrition, exit attrition can be subdivided into the various activities teachers undertake upon leaving teaching (e.g., alternative employment or homemaking) and by other reasons for leaving teaching (e.g., reductions in force or death). SASS, for example, provides a wide range of information about teachers who have exited the profession. The following five post-teaching activities illustrate major categories that can be tabulated from SASS attrition data:

1. employment in a non-teaching education position;
2. employment in a non-education position;
3. return to student status in higher education;
4. homemaking and/or child rearing; or
5. retirement, death, or other.

Table 2

Two-Factor Framework for Teacher Transfer Attrition

Transfer Attrition: School Site Factor (1990-91)	Subject Matter Field (90-91)	Transfer Attrition: Subject Matter Field (1989-90)				
		Read	Math	Bilg	TESL	SpEd
1. Same School	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
2. To Different School: Same District	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
3. To Different School: Different District In-State	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
4. To Different School: Different District Out-Of-State	Read	X				
	Math		X			
	Bilg			X		
	TESL				X	
	SpEd					X
5. TOTAL Teachers: 1989-90	>	___	___	___	___	___

NOTES:

1. Diagonal cells (Xs) represent stability from year-to-year in subject matter field, while the off diagonal cells in a column represent transfer attrition from different fields.
2. Teachers classified in the diagonal cells (Xs) of "Block 1: Same School" represent the large stable teaching force which continues to teach in the same field in the same school.
3. Teachers classified in Blocks 2, 3, and 4 during the current year (1990-91) represent transfer attrition to different school sites from the prior year. Those classified in off diagonal cells of these blocks represent combined subject matter field and school site transfer attrition.
4. Five subject matter areas have been selected here to illustrate the teaching field transfer attrition matrix. Since SASS identifies 32 distinct primary teaching fields, a much larger matrix with up to 27 additional fields can be analyzed.

The study of teacher exit attrition from a national perspective is made possible by the Teacher Followup Survey of Spring, 1989, which was administered to the 2500 teachers in the base SASS who exited the profession at the end of the 1987-88 school year. This survey questionnaire was completed by 93 percent of all teachers in the SASS sample who left the profession. In addition to determining their primary activity after leaving teaching, the survey obtained information about their post-teaching income, their plans for the immediate future (including returning to teaching), their reasons for leaving teaching, their dissatisfactions with teaching, and their opinions about working conditions in their new jobs in comparison with their former teaching positions. Furthermore, through linking these followup survey data with data from the base SASS, one can expand to the analysis of exit attrition include a wide range of additional considerations such as variations in work loads and personnel policies.

Factors Influencing Teacher Demand, Supply, and Shortages

A large number of known and unknown factors affects the magnitudes of teacher demand, supply, and shortage. Some of these factors are teacher characteristics which affect the definitions of demand, supply, and shortage, while other factors determine the amount of the supply and the rate of exit attrition. A few of the more important factors, beginning with teacher characteristics, are described in the following paragraphs.

Teacher Certification Status

Teacher shortage is a function of the certification status of existing and prospective new teachers. The possession of standard or regular certification is used here as an operational definition of a fully qualified teacher though some authorities or interest groups may conclude that standard certification requirements in some teaching fields in some states are inadequate. In that event their definition of a fully qualified teacher will include other factors such as academic preparation, experience, and/or special abilities such as fluency in a particular language other than English. Teachers hired with less than full certification are commonly thought not to alleviate the shortage problem but to be a stopgap measure.

Language Fluency

In bilingual education a teacher is expected to be proficient in English and in the non-English native language of the student, whether or not the teacher is otherwise fully certified. To the extent that such teachers do not fill teaching positions, a component of shortage is defined.

Race/Ethnicity

It is often observed that the proportion of minority teachers is much lower than the proportion of minority students and that the first has actually declined in recent years. In the judgment of many there is, therefore, a shortage of minority teachers whether or not the total number of qualified teachers is sufficient.

Teacher Age

Teacher age is a major factor associated with exit attrition rates, with junior and senior teachers exiting the profession at a higher rate than teachers in the middle age range. The age of teachers is, therefore, a predictor of turnover and may be predictive of shortages depending on the replacement supply available.

Economic Considerations

The teaching profession is commonly thought to be price sensitive, with higher salaries attracting a larger supply of qualified new teachers and prolonging the years in service of active teachers. A more subtle consideration is whether or not a teacher is the primary wage earner in a family. Teachers who are secondary wage earners are less likely to transfer to a different geographic area unless the primary wage earner relocates.

Sociological Considerations

Factors such as family structure and number of dependents of teachers are presumed to be related to employment stability. Many teachers exit teaching and later return, sometimes several times. Often this is a function of child-rearing activities. They contribute to both shortage and reserve pool supply statistics. Conversely, teachers who are primary wage earners are more likely to remain in their positions and, therefore, not contribute to turnover rates and potential shortage.

Urbanicity of the School Environment

Teacher shortages, a joint function of high attrition and inadequate supply of qualified candidates, are often reported to be accentuated in rural and inner city areas. Location (i.e., geographic distribution) is, therefore, one major factor to be accounted for in calculating teacher shortage.

DATA RELEVANT TO TDSS

Review of TDSS Research in Bilingual and ESL Education

Organized and reported information relevant to the demand, supply, and shortage of BETs from a national perspective is extremely limited, and estimates of one key element (the number of limited English proficient school-age children in the nation) vary so widely as to be of marginal utility. The purpose of this section is to review and interpret available literature within the TDSS framework described in the prior section. This review often distinguishes data that apply (a) only to bilingual teachers, (b) only to ESL teachers, and (c) to bilingual and ESL teachers (BETs) combined.

BETs Demand

The determination of demand for BETs is complex and controversial. Complexity results from the multiplicity of factors involved in defining demand and the availability of two models (i.e., the prevalence and market models) by which demand can be estimated. Controversy is the result of varying assumptions made about teacher/student ratio and of the selection of an appropriate estimate of the number of LEP students from various data sources, which provide counts ranging from about one to five million.

Use of the Prevalence-Based Model to estimate total demand for BETs requires data on the number of LEP students nationally and a judgment of a reasonable teacher/student ratio. The authors of this paper prefer to use the number of about 1.5 million LEP students estimated by a 1985-86 survey conducted by the U.S. General Accounting Office (GAO, 1987) and a teacher/student ratio of 1:25. Using these numbers, we estimate a prevalence-based demand for 60,000 BETs.

However, Macias (1989) computed a much larger demand for BETs using the prevalence approach. He prefers to use a projection of 2.5 million LEP students age 4-15 years for 1985 made by Oxford, et al. (1984) and a teacher/student ratio of 1:20 (the lowest of three ratios he suggested). Using these numbers, Macias estimates the demand for BETs at 140,000. If instead we use the GAO count of LEP students (1.5 million) and the same teacher/student ratio of Macias (1:20), then the demand for BETs is estimated to be 75,000. In our judgment, the most reasonable estimate of BETs demand using the prevalence method seems to be about 60,000 to 75,000 as of 1985.

The prevalence method can be used to provide a good estimate of the number of teaching positions that should exist for BETs under the set of assumptions made about student counts and preferred teacher/student ratio.

However, it does not provide an estimate of how many teaching positions for BETs actually exist. In a more practical sense, the latter estimate is the realistic demand. This estimate is provided by the alternative market approach. Fortunately, some national data from 1983-84 on established teaching positions for bilingual teachers (but not for ESL teachers) are available from a published, though widely overlooked, source (Sietsema, 1987). Using these data, we have computed an estimated 25,345 FTE positions for bilingual teachers at the elementary level and 4,818 position at the secondary level in both public and private schools. Only about 3 percent were in private schools, however.

Thus, the total market-based demand for bilingual teachers (excluding ESL) is about 30,000, or about half the 60,000 prevalence-based demand for both bilingual and ESL teachers that we estimated above. Unfortunately, no firm estimates for the numbers of both active bilingual and ESL teachers are available from the same data base. Macias, however, reported data from 1981 showing that 32,000 trained ESL teachers were active in their field (1989, p. 7). He later cited data from Waggoner and O'Malley (1984) indicating that, in 1980, approximately 28,000 certified bilingual teachers were using a non-English language in the classroom. Two aspects of these data are interesting. First, one can infer that the distribution of active ESL/bilingual teachers was roughly 50/50. Secondly, the figure of 28,000 active certified bilingual teachers using a non-English language is close to our estimate from Sietsema's (1987) data of about 30,000 FTE bilingual teacher positions. Given these estimates, it is not unreasonable to assume that, in the early 1980s, a market-based demand for about 60,000 BETs (comprised of about 30,000 bilingual positions and 30,000 ESL positions) existed. Interestingly, the total number of positions estimated in accordance with the market model (60,000) is equivalent to the number of teachers estimated in accordance with the prevalence model (also 60,000).

BETs Supply

With respect to the total national supply of ESL teachers, Macias (1989, p. 7) cited unpublished figures for 1981 that 32,000 trained ESL teachers were actually teaching ESL; apparently 26,000 of these were teaching through the non-English language. With respect to the total national supply of bilingual teachers, data reported by Waggoner and O'Malley (1984) for 1980 indicated that 28,000 active teachers were certified in bilingual education and used a non-English language in the classroom. The type of certification held by these 54,000 combined ESL and bilingual teachers was not reported. The credibility of the estimate of 28,000 active bilingual teachers is supported by data from a NCES national survey of teacher demand and shortage in 1983-84 (Sietsema, 1987). It estimated approximately 29,000 certified (of all types) FTE teachers with bilingual education as their primary field of assignment.

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The supply data reported above did not include information on the sources of supply (i.e., the number of continuing teachers, recent college graduates, new entrants from the reserve pool, and transfers from other teaching fields). Sietsema (1987) also reported that about 90 percent of the active bilingual teachers were fully certified in their field and that about 85 percent were teaching at the elementary level. Other than this, little or nothing is known specifically from national survey data about the qualifications or characteristics of BETs actually teaching in these fields.

One source of new BETs is recent college graduates. In 1986-87 our nation's colleges and universities reported graduating 868 bilingual/bicultural and 665 ESL teachers at both the baccalaureate and masters degree levels (Snyder, 1989). These graduation counts were increased from 301 in bilingual/bicultural and 687 in ESL in 1982-83, the first year for which national graduation data were reported by NCES in these teaching fields (Snyder, 1987). While the number of bilingual/bicultural majors almost tripled in just four years, the total number of graduates (868) is still quite small in absolute terms. Furthermore, there are no data on the proportion of these new graduates who actually enter bilingual teaching upon graduation (i.e., the yield), nor are there data on the retention in bilingual teaching of those who do enter. Available national data do not inspire confidence in the production of recent college graduates in bilingual and ESL majors as the solution to the teacher supply problem.

BETs Shortage

It might appear from the BETs supply and demand numbers reviewed here that the difference between them (i.e., the shortage) is not great. However, all available evidence indicates serious shortages of BETs. The apparent contradiction can be explained by the fact that the earlier conclusion is obtained from teacher data that fail to account for variation in teacher qualifications, distribution by location and teaching level, and teacher characteristics such fluency in a language of instruction other than English and multicultural sensitivity. The only national data on shortage of bilingual teachers (but not ESL teachers) that have been reported in terms of some of these refined dimensions were collected by NCES in its 1983-1984 Survey of Teacher Demand and Shortage (Sietsema, 1987). It is based on a representative national sample of 2,540 LEAs in the public sector and 1,000 private schools. Data reported by Sietsema on bilingual and selected other teaching fields have been abstracted from his tables and reorganized here in Table 3 to identify specific teacher shortages. Shortage is here defined by two components: (a) teaching positions filled with unqualified personnel (defined as those holding provisional, temporary, or emergency certification); and (b) positions for which there was a shortage of certified candidates (defined as positions left vacant, filled with a substitute teacher, discontinued, or transferred to another teaching field).

The data in Table 3 show that, in 1983-84, there was a much greater shortage of bilingual teachers than in either special or general education at the elementary level and that the bulk of the shortage was the result of the appointment of unqualified teachers.

The number of FTE positions for which there was a shortage of qualified teachers in bilingual education was approximately 3,200, or about 13 percent of total demand. The shortage rate for bilingual teachers at the secondary level was equivalent, but the number of such teachers at this level is relatively modest. Nonetheless, the shortage percentage of bilingual teachers at the secondary level (viz., 13 percent) was three times greater than that in mathematics and science education and in special education and equalled only by the shortage percentage in foreign languages. If these data accurately estimate the total shortage of bilingual teachers at both the elementary and secondary levels two years later in 1985 and if the total shortage of ESL teachers was approximately equal, then one obtains an estimate of the total shortage of qualified bilingual and ESL teachers combined of about 8,000 FTE teachers. This amount of shortage is ten times higher than the estimated yield of 800 practicing teachers[6] obtained from the production of about 1500 newly- graduated BETs in 1986-87 as reported by Snyder (1989). Thus, unless dramatic (and as yet undocumented) increases in the annual number of newly graduated BETS have occurred over the past five years, it seems obvious that the shortage of BETs will not be redressed by the production of our teacher education institutions.

The final source of data to be reviewed on the shortage of bilingual teachers comes from a series of annual surveys of its members conducted by the Association for School, College and University Staffing, Inc. (Akin, 1988). Placement offices of 502 member institutions were asked to rate the relative demand for teachers by teaching field. Responses received (about 50 percent of those surveyed) have indicated that bilingual education has consistently been rated as a "teaching field with considerable teacher shortage" (the highest category of shortage used) over the eight-year period from 1982-1989. Overall, the teaching fields of bilingual, special, mathematics, and science education were equivalent in their teacher demand ratings in these surveys. Because the member institutions are not necessarily a representative sample of American higher education institutions and because the response rates to the surveys are only on the order of 50 percent, the shortage ratings based thereon cannot be interpreted with confidence. The consistent pattern over time reported by some 250 teacher training institutions, however, is consistent with other data reviewed here that show a serious shortage of BETs.

Table 3.--Average years teaching in current school of English as a second language and bilingual education by sector, level, and selected characteristics: 1987-88

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	6.0	6.0	6.3	3.8	6.2
Sex					
Male	6.9	5.4	8.0	5.6	8.9
Female	5.8	6.0	5.6	3.7	5.0
Not reported	9.0	10.3	---	---	---
Race					
Am. Indian, Aleut, Eskimo	5.0	3.4	6.9	4.2	---
Asian or Pacific Islander	5.9	6.6	4.5	4.5	---
Black	6.0	6.0	6.2	---	---
White	6.1	6.1	6.6	3.7	6.3
Not reported	5.0	5.2	4.2	---	---
Ethnic origin					
Hispanic	6.2	6.2	5.9	4.0	12.3
Non-Hispanic	5.9	5.7	6.6	3.6	4.8
Not reported	7.2	8.7	4.7	---	--
Age					
Less than 30	2.1	2.0	2.4	2.1	1.8
30 to 39	5.0	5.2	4.6	4.1	3.4
40 to 49	6.6	6.5	6.9	4.0	6.9
50 or more	9.5	9.3	9.8	6.8	14.3
Not reported	6.5	8.8	3.3	---	6.2
Marital Status					
Married	6.4	6.4	6.8	3.9	6.3
Widowed, divorced, or separated	5.9	5.5	7.3	3.4	5.0
Never married	4.6	4.8	3.8	3.5	7.2
Not reported	4.9	7.1	1.8	---	---
Region					
Northeast	5.5	5.6	5.3	3.7	7.1
North central	7.3	6.4	8.4	3.6	4.4
South	6.6	7.1	5.3	4.4	6.5
West	5.6	5.3	6.7	3.9	4.6

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

In summary, this review of available research on the demand, supply, and shortage of BETs has revealed that there is little sound nationally-representative information on both bilingual and ESL teachers, and available information typically comes from different sources. Nonetheless, we can conclude: (a) that there is a serious shortage, overall, of qualified teachers active in these fields; (b) that a conservative estimate of the shortage based on the market model is 8000 qualified teachers; (c) that the concentration of bilingual teachers and the shortage thereof is at the elementary level; and (d) that teacher preparation; institutions are not graduating BETs at a rate sufficient to overcome the shortage, even over a period of years. As of the early 1980s, when relevant data were collected, it is clear that many more qualified BETs were needed to fill available positions. It is also clear that much better research is required to examine the dynamics of the BETs labor market if effective policies are to be adopted to redress existing needs for a sufficient supply of qualified teachers.

BETs Characteristics: Preliminary SASS Data

As observed in the prior section, little is known about the characteristics of BETs from national survey data, and even less is known about how they compare with characteristics of teachers overall. Many of these characteristics are relevant to understanding teacher supply, demand, and shortage. For example, teacher shortage is a function of qualifications which are based, in part, on training, certification, and experience. As another example, retention is a function of age, gender, and marital status. Preliminary analyses of BETs from NCES's 1987-88 Schools and Staffing Survey have been completed recently but not yet published. The purpose of this section is to report some of these new analyses and to compare BETs characteristics with those of teachers overall.

The data reported here[7] for BETs were obtained from national survey responses of 1,853 teachers who use a language other than English to instruct LEP students and/or who teach ESL. These data are compared with survey responses of 41,000 public school teachers and 6,700 private school teachers drawn from all teaching fields.

The distributions of BETs and of teachers overall are shown in tables 4 and 5, respectively, by sector (public and private), level (elementary and secondary), and personal characteristics (e.g., gender, age, race, etc.). Comparison of the "Total" columns of these two tables reveals the following general trends:

1. A high percentage of BETs is female (83 percent); this is a higher percentage than for all teachers (71 percent). The main source of this

Table 4.--Percent of teachers of English as a second language and bilingual education, by sector, school level and selected characteristics: 1987-88.

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	100.0%	100.0%	100.0%	100.0%	100.0%
Sex					
Male	16.5	10.2	31.7	6.4	30.0
Female	82.9	89.0	67.9	93.6	70.0
Not reported	0.7	0.8	---	---	---
Race					
American Indian, Aleut, Eskimo	1.4	0.8	1.9	8.7	---
Asian or Pacific Islander	5.4	5.5	5.3	8.2	---
Black	4.5	5.5	2.8	---	---
White	80.9	79.4	82.8	83.1	95.7
Not reported	7.9	8.8	7.1	---	---
Ethnic origin					
Hispanic	38.8	44.4	28.3	29.6	17.8
Non-Hispanic	59.3	53.9	59.3	69.6	81.6
Not reported	1.9	1.7	2.7	---	---
Age					
Less than 30	12.8	13.9	7.9	28.3	18.7
30 to 39	35.9	36.9	34.0	39.6	26.3
40 to 49	29.1	27.9	32.3	21.7	34.9
50 or more	20.5	20.0	23.5	10.2	16.2
Not reported	1.6	1.4	2.3	---	3.9
Marital Status					
Married	66.3	66.1	66.3	71.5	66.6
Widowed, divorced, or separated	15.9	16.1	16.5	9.9	11.7
Never married	16.7	16.8	16.1	16.9	19.2
Not reported	1.1	0.9	1.2	---	---
Region					
Northeast	20.4	17.6	25.7	26.3	30.2
North central	8.8	5.7	17.0	7.8	5.3
South	29.5	32.2	20.9	31.0	46.1
West	41.3	44.5	36.4	34.9	18.4

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 5.--Percent of total public and private teachers, by sector, school level, and selected characteristics: 1987-88

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	100.0%	100.0%	100.0%	100.0%	100.0%
Sex					
Male	28.4	12.4	46.8	8.0	36.7
Female	71.1	87.1	52.7	92.0	63.1
Not reported	0.4	0.5	0.4	---	0.2
Race					
American Indian, Aleut, Eskimo	1.1	1.0	1.1	1.0	0.8
Asian or Pacific Islander	1.0	1.0	0.8	1.1	1.5
Black	7.5	8.8	7.5	3.0	1.6
White	88.9	88.6	88.9	93.5	94.4
Not reported	1.6	1.6	1.6	1.3	1.8
Ethnic origin					
Hispanic	2.9	3.3	2.5	2.2	3.4
Non-Hispanic	95.1	94.7	95.4	95.9	94.5
Not reported	2.1	2.1	2.1	1.8	2.1
Age					
Less than 30	12.2	12.2	10.5	20.8	17.1
30 to 39	32.6	33.6	31.5	32.5	32.1
40 to 49	34.2	32.6	37.0	26.6	30.3
50 or more	19.7	20.2	19.7	16.7	18.9
Not reported	1.3	1.3	1.2	1.4	1.6
Marital Status					
Married	71.7	71.9	73.6	64.0	64.0
Widowed, divorced, or separated	11.4	12.6	11.3	7.6	7.6
Never married	15.9	14.7	14.2	26.9	26.7
Not reported	0.9	0.9	0.8	1.6	1.7
Region					
Northeast	22.2	20.5	22.2	25.4	32.9
North central	26.3	25.7	26.9	30.0	22.6
South	34.6	36.0	34.4	30.3	28.6
West	16.9	17.8	16.5	14.3	15.9

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

difference is the higher percentage of female BETs at the secondary level in public schools.

2. The comparison of the racial distributions of BETs and teachers overall is clouded by the relatively high percentage of BETs who did not respond to this question (8 percent). However, it is clear that the Asian and Pacific Islander composition of BETs (5 percent) is much higher than that for all teachers (1 percent). Given the substantial number of Asian LEP students, estimated by Macias (1989) to be over 4 percent of all students in 1990, this evidence of a considerable supply of teachers of Asian origin is encouraging.

3. The percentage of BETs of Hispanic origin (39 percent) is quite high and is much higher than that for all teachers (3 percent). Nonetheless, it is only about half the percentage of Spanish speaking LEP students (75 percent in 1990) estimated by Macias (1989). While these data may suggest that the supply of teachers of Hispanic national origin is insufficient to the specific demand for teachers of this origin, it does not address the supply and/or demand for Spanish-speaking BETs.

4. The age distributions of BETs and teachers overall are comparable. The observation that approximately 20 percent are over the age of 49 does not suggest a massive shortage of teachers resulting from retirement in the near term.

5. As to marital status, a significantly higher percentage of BETs than all teachers was not married (34 percent vs. 28 percent, respectively). Since married teachers are usually more stable in their teaching appointments, this difference suggests that the attrition rate of BETs may be elevated slightly for this reason. For both groups of teachers, the percentage married is quite high in absolute terms.

The average number of years of full-time teaching experience of BETs and of teachers overall is shown in Tables 6 and 7, respectively, by sector, level, and personal characteristics. Overall, BETs have about two and a half years less experience than all teachers (11.1 years vs. 13.5 years). The average number of years of teaching experience does not vary dramatically for any teacher characteristic variable other than for the age variable (which is expected). Though BETs are somewhat less experienced on the average than all teachers, both groups have over ten years of experience — enough to suggest that lack of experience is not a major consideration, on the whole, to determining the qualifications of either group.

Degree attainment percentages of BETs and of teachers overall are shown in Tables 8 and 9, respectively. Both groups include only a small

Table 6.--Average number of years of full-time teaching experience of teachers of English as a second language and bilingual education, by sector, school level, and selected characteristics: 1987-88.

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	11.1	11.1	11.7	7.1	9.4
Sex					
Male	12.0	10.2	13.5	7.6	12.4
Female	10.9	11.2	10.8	7.0	8.0
Not reported	11.7	10.8	17.0	---	---
Race					
Am. Indian, Aleut, Eskimo	10.3	11.5	9.4	10.6	---
Asian or Pacific Islander	10.3	11.7	5.8	15.8	---
Black	12.7	12.5	13.8	---	---
White	11.3	11.3	12.1	5.8	9.3
Not reported	9.2	8.6	10.7	---	---
Ethnic origin					
Hispanic	10.7	10.5	11.6	9.2	17.4
Non-Hispanic	11.4	11.7	11.8	6.1	7.6
Not reported	10.8	11.1	10.5	---	---
Age					
Less than 30	2.5	2.6	2.6	2.2	1.6
30 to 39	8.4	8.8	7.7	7.1	7.1
40 to 49	12.9	13.2	12.9	9.4	10.3
50 or more	18.6	18.4	19.0	15.5	20.9
Not reported	10.1	11.7	8.7	---	5.6
Marital Status					
Married	11.3	11.4	11.8	7.6	8.7
Widowed, divorced, or separated	13.5	13.3	14.7	4.4	9.0
Never married	8.2	8.1	7.9	7.1	12.8
Not reported	11.4	11.3	15.4	---	---
Region					
Northeast	9.6	9.5	10.1	5.5	10.5
North central	12.0	10.6	13.6	5.1	7.5
South	11.6	12.1	11.0	6.8	9.5
West	11.3	11.1	12.3	8.9	7.8

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 7.--Average number of years of full-time teaching experience of total public and private teachers, by sector, school level, and selected characteristics: 1987-88

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	13.5	13.5	14.3	10.0	11.2
Sex					
Male	15.6	15.5	16.0	10.6	12.3
Female	12.6	13.2	12.7	10.1	10.6
Not reported	14.6	15.1	14.8	---	2.8
Race					
Am. Indian, Aleut, Eskimo	13.5	13.5	14.0	11.1	12.2
Asian or Pacific Islander	13.3	14.8	12.9	11.3	8.7
Black	15.4	15.5	15.8	7.9	10.3
White	13.3	13.2	14.2	10.0	11.3
Not reported	13.6	13.8	14.2	11.3	10.8
Ethnic origin					
Hispanic	11.3	11.0	12.4	10.3	8.6
Non-Hispanic	13.5	13.5	14.3	10.0	11.2
Not reported	15.6	15.9	16.0	11.5	13.8
Age					
Less than 30	3.1	3.2	3.2	2.9	2.6
30 to 39	9.0	9.3	9.2	7.0	7.1
40 to 49	15.3	15.2	16.2	10.9	12.6
50 or more	22.8	22.5	23.3	22.1	22.8
Not reported	15.8	16.7	16.4	11.8	9.2
Marital Status					
Married	13.7	13.4	14.7	9.3	10.7
Widowed, divorced, or separated	15.5	15.9	15.7	11.9	11.7
Never married	11.2	11.5	10.7	11.2	12.2
Not reported	14.4	15.4	14.7	10.2	12.9
Region					
Northeast	14.3	14.2	15.5	9.3	8.9
North central	14.1	14.3	14.7	10.7	11.9
South	12.6	12.6	13.1	9.8	11.0
West	13.3	13.1	14.5	9.3	8.9

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 8.--Percent of teachers of English as a second language and bilingual education, by sector, school level, and highest degree earned: 1987-88

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	100.0%	100.0%	100.0%	100.0%	100.0%
No degree	1.2	0.5	0.7	10.1	13.8
Associate's degree	0.5	---	0.5	6.3	---
Bachelor's degree	54.6	59.1	44.5	66.6	---
Master's degree	33.5	30.4	41.8	14.1	46.0
Education specialist	8.3	8.4	9.1	---	2.9
Ph.D.	1.6	1.1	2.9	---	---
First professional	0.3	---	0.4	---	---

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 9.--Percent of total public and private teachers, by sector, school level, and highest degree earned: 1987-88

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	100.0%	100.0%	100.0%	100.0%	100.0%
No degree	0.5	0.04	0.4	3.8	1.9
Associate's degree	0.6	0.02	0.9	1.8	1.1
Bachelor's degree	53.2	56.8	47.3	70.9	50.9
Master's degree	38.8	36.9	43.2	21.0	39.2
Education specialist	5.9	5.6	7.0	2.1	3.7
Ph.D.	0.9	0.5	1.1	0.3	2.8
First professional	0.1	0.1	0.2	0.1	0.4
Not reported	---	---	---	---	---

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

percentage (under 2 percent) of teachers with less than a bachelor's degree, and both groups have an equivalent percentage of teachers (54.6 percent and 53.2 percent, respectively) for whom the bachelor's degree is the highest earned. The percentage of teachers in both groups with post-bachelor's degrees is comparable (about 54 percent). Thus, lack of higher education, as measured by degrees earned, is not a factor in defining teacher qualifications for either group, and BETs are equivalent to all teachers in their higher education thus measured. Of course, these data do not indicate whether any of the degrees earned is in an academic or professional education field directly relevant to a teacher's primary assignment, an important consideration in determining a teacher's qualifications.

Finally, Table 10 presents data on the college major and certification status of BETs. These data indicate that 91 percent of BETs were certified (at any level — regular, provisional, emergency, etc.) in their primary teaching field while the other 9 percent were not certified at all. These findings suggest a deterioration in the qualifications of BETs since 1983-84, as indicated in the data of Table 3. In 1983-84 fewer than 1 percent of full-time equivalent teaching positions in bilingual education were not filled with a teacher holding some kind of certification according to LEA administrative offices reporting these data. By contrast, Table 10 shows that 9.1 percent of BETs were not certified in their primary teaching field. This suggests a serious decline in the qualifications of BETs in their primary assignment. This apparent decline has contributed to the shortage of qualified BETs.

Though the preliminary analyses from SASS reported here in Tables 4 through 10 provide some insight into the composition of the teaching force in bilingual and ESL education, they do not table 10 answer many other important questions about the demand, supply,and shortage of BETs from a national perspective. For example, national estimates of BETs who are fully certified and who are not fully certified in their primary teaching assignments are needed to compute the size of the supply who are qualified in this respect. Also on the supply side, we need to know the sources tapped to bring new teachers into bilingual and ESL teaching positions and the qualifications of recruits from various sources. This and much more important information can be obtained by further analyses of SASS data from 1987-88.

TDSS INFORMATION NEEDS AND POLICY ISSUES

The previous sections of this paper have shown: (a) that national models have been developed that are useful in the analysis of teacher demand, supply, and shortage issues applicable to bilingual and ESL education; (b) that, for the first time, a wealth of nationally representative data has recently become available from the 1987-88 Schools and Staffing Survey which can support a detailed analysis of demand, supply, and shortage of BETs; and (c) that

Table 10.--Percent of public school teachers of English as a second language and bilingual education, with various levels of qualification: 1987-88.

Qualifications	Percentage
Majored and certified	34.7
Majored, but not certified	2.5
No major, but certified	56.2
Not major, not certified	6.6

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School and Staffing Survey, 1987-88.

previous efforts to analyze the teaching force in bilingual and ESL education have been lacking in refinement and have been hampered by inadequate data. The purposes of this final section are: (a) to identify areas in which further information is needed; (b) to specify policy issues entailed in ensuring a sufficient supply of qualified BETs; and (c) to identify research opportunities that are responsive to needs for further information which, in turn, will contribute to a better understanding of such policy issues.

Information Needs

A great deal of factual data is required to compute realistic and useful measures of teacher demand, supply, and shortage in any subject matter field. Much of it is now available from the NCES 1987-88 Schools and Staffing Survey. Because SASS data have not yet been intensively exploited to determine their full capability of yielding precise and credible measures of many of the fine-grained concepts that are part of the national TDSS framework, this data base invites "testing" of its full potential. If limitations are discovered, information about them may be used to refine and improve future surveys because SASS is scheduled to be administered every two years beginning in 1991. Reference to SASS data in the following description of information needs is made with this caveat in mind.

BETs Demand Data

Gross demand for teachers can be computed by either or both of two methods. To compute teacher demand in accordance with the Market-Based Model, the following specific information is needed:

- the number of BETs teaching positions created and funded by LEAs, stratified by teaching field, grade level, state or region, and teacher characteristics such as certification status, non-English language abilities, and ethnic origin.

Most of these data are provided by SASS in one form or other with the major exception of requirements for teacher language abilities. Acquisition of current data on teacher proficiency in a non-English language, stratified by grade level, teaching field, and state, could be obtained by inclusion of pertinent items in future administrations of SASS or by new surveys focused on this topic.

To compute teacher demand in accordance with the Prevalence-Based Model the following specific information is needed:

- The number of LEP students, stratified by native language, grade level, and geographic distribution, and some consensus on an acceptable teacher/student ratio.

LEP student data are generated by a variety of sources (Council of Chief State School Officers, 1990; Macias, 1989), typically yielding widely varying estimates depending on the definitions of LEP students and on the data gathering methods used. A major new survey undertaking would be required to measure uniformly the number of limited English proficiency students and perhaps to stratify them by degree of limited English proficiency and native language.

BETs Supply Data

Since the demand for BETs is normally framed in terms of fully qualified teachers, the quantification of the supply of BETs is meaningful only if supply data pertain specifically to fully qualified teachers. Therefore, the first step is to define the key characteristics of qualified bilingual teachers and ESL teachers. Such definitions might include educational background, certification status (i.e., type and subject matter), proficiency in a language other than English, and cultural origins. Once these specifications are established, the following information is needed about teacher supply:

- the number of qualified BETs, stratified by teaching field, grade level, and state or region, who entered their present teaching positions in a particular year through each of the five supply sources identified in TDSS models; and
- the number of unqualified BETs filling available positions, similarly stratified, who entered their present teaching positions in a particular year through each of the five sources of supply.

Most of these data are provided by SASS. Two of the critical components of new teacher supply provided by SASS are recent college graduates and entrants from the active reserve pool. However, the potential of these sources of supply is partly a function of the sizes of the respective pools from which they were drawn. If the yield from these pools is only modest, there is considerable potential for increasing the recruitment of new teachers from these pools by improving working conditions that make teaching more appealing. Data on the pool of relevant college graduates are found in the NCES Survey of Recent College Graduates, while data on the size and composition of the active reserve pool will require special focused studies.

BETs Shortage Data

Once the BETs demand and supply data are available, it will be easy to determine the specific loci of teacher shortages by subtracting the supply of qualified teachers from the demand, all within particular strata. Since recruitment and hiring of new teachers occur mainly on an annual cycle, the following information is needed to measure the demand for new qualified teachers unfilled by continuing qualified teachers:

- the number of teachers exiting the teaching profession, stratified by teaching field, grade level, state or region, and teacher qualifications;

- the number of positions filled in the prior year by unqualified teachers or left vacant, stratified by teaching field, grade level, state or region, and teacher qualifications; and

- the number of qualified teachers who may transfer from one teaching position to another for which they are not qualified, stratified by teaching field, grade level, state or region, and teacher qualifications.

Most of these data are provided by SASS. However, the tracking of changes in teacher demand from one year to the next, which impact the need for new teachers, will require the following additional information:

- numerical changes in the size of the student population, stratified by native language, grade level, and geographic distribution; and

- numerical changes in target teacher/student ratios or class sizes set by policy makers.

Data on the latter two factors will be difficult to obtain. Changes in student numbers and characteristics can be tracked with successive cross-sectional surveys, such as conducted by the U.S. Census Bureau. Policy changes can be tracked by new surveys addressed to LEA and state administrative offices.

If all the teacher shortage data identified here were available, both the degree and character of teacher shortages could be described with reasonable precision, including the annual demand for new teacher hires. Teacher shortages could also be stratified along dimensions important to providing a supply of teachers with the right qualifications, at the right grade level, at the right locations.

Major Policy Issues in TDSS of Bilingual and ESL Education

To the extent that the information about demand, supply, and shortage identified above is produced, the dynamics of the teacher work force in bilingual and ESL education will be understood in depth from a national perspective. To the extent the dynamics of this teacher work force is understood, it will be possible to address many policy issues directly relevant to creating and maintaining a qualified work force. Some of the these major policy issues are identified next. Productive resolution of some of these issues would be furthered by special focused studies with SASS or other data bases and by original policy-driven empirical research.

Issue: What Attributes Define a Qualified Teacher?

Without a clear definition of a fully qualified teacher, it is not possible to measure the demand for qualified teachers or the supply or the shortage. Variations in specifications for qualified teachers will have tremendous bearing on demand, supply, and shortage. If fluency in the native language of LEP students were a specification for all ESL teachers, then the shortage would no doubt be much greater. Weak specifications would make recruitment of qualified teacher easier and would reduce the shortage ratio but might not serve well the needs of LEP students. The empirical influence on teacher shortage computations of different policy alternatives in setting teacher qualifications could be the subject of policy-based research with SASS and other data sources.

Issue: How Can Teacher Supply be Enhanced Most Productively?

The supply of fully qualified BETs can be enhanced by a variety of means such as increasing the production of new teachers, attracting qualified teachers out of the reserve pool, promoting alternative routes into teaching careers, and lengthening the average years of service of active teachers. In designing federal and state policy, programs, and funding leading to an increase in the supply of teachers, it would be very useful to know how much potential each of these alternative means will have on reducing teacher shortage; how productive new policy initiatives might be in these different arenas; and what the comparative cost/effectiveness ratios would be for alternative initiatives. Research data from SASS and other data bases can shed light on the potential of different sources of supply to reduce teacher shortage estimates and can, therefore, contribute to estimating the relative cost/effectiveness of different approaches.

Issue: What Working Conditions Can be Manipulated, and at What Cost, to Improve Retention of Qualified Teachers?

Policy makers can alter working conditions, such as teacher/student ratios, salary levels, benefits, availability of teacher aides, and the professional climate of schools, that can contribute to retention of qualified teachers and reduce teacher burnout. Policy-driven research can be directed to examine the potential of manipulating various working conditions to promote teacher retention and to project the relative cost/effectiveness of alternative policies. The SASS data base, in conjunction with data from the Teacher

Followup Survey, can be used to study working conditions associated with teacher decisions to remain in or to leave their primary teaching assignment.

Issue: Why do Fully Qualified Teachers Leave the Profession, and What Policies Can be Adopted to Reduce Exit Attrition?

A teacher's decision to leave the profession may be based on negative factors in the profession (e.g., poor working conditions), and/or on positive factors inherent in available alternatives (e.g., higher salaries). While education policy cannot affect the absolute attractiveness of non-education alternatives open to teachers, it can affect the relative attractiveness of these alternatives by creating more attractive conditions in the teaching profession — perhaps the vary ones (such as salary) that seem most appealing on the outside. SASS and the longitudinal Teacher Followup Survey provide an unprecedented opportunity to study factors involved in the attrition of a representative national sample of teachers. The identification of incentives for leaving and incentives for staying would be very useful information for formation of education policy designed to reduce attrition of qualified teachers and, thereby, reduce the shortage. The productivity and cost of policy alternatives could be analyzed to provide cost/effectiveness estimates.

Issue: To What Extent Do Qualified Teachers Leave Teaching Temporarily, and What Policies Can be Established to Induce Them to Return to Teaching With Minimal Delay?

It is known that many teachers leave and reenter teaching, perhaps several times. Why do they do this, and what can be done to induce them to return? SASS contains extensive data on teacher career patterns. In addition, the Teacher Followup Survey provides longitudinal data on characteristics of teachers who leave and return and the reasons why. Knowledge of why teachers return after a period of absence might lead to policies designed to enhance these positive factors.

Issue: How Can Teacher Training be Designed to Improve the Rate at Which Graduates Enter Teaching and Remain in Teaching?

If teacher training programs could be designed to enhance the yield of practicing teachers from among those graduating and if the programs could be designed to enhance the retention of these new teachers, then teacher shortages could be reduced. Policy-based research could be directed to examine the attributes of teacher training programs that are exceptionally productive in these respects. SASS contains a wealth of information about the educational and work histories of practicing teachers, and this could be linked by special studies to the characteristics of teacher training programs.

Issue: What Personal Attributes of Prospective Teachers Are Predictive of Success in Teacher Preparation Programs, of Entry into the Teaching Profession, and of Retention in the Profession, and What Policies Can be Adopted to Identify and Recruit Such Individuals into Teacher Education?

Enhanced yield and retention of students graduating from teacher preparation programs will obviously reduce the shortage of fully qualified teachers. Original focused research could be designed to identify selected personal characteristics predictive of entering and remaining in the teaching profession, and these may then be used to guide recruitment and induction of individuals into teacher preparation programs.

SUMMARY, DISCUSSION, AND CONCLUSION

Summary and Discussion

By the few available measures, there has been (and presumably continues to be) a serious shortage of qualified teachers in the field of bilingual education — more so, apparently, than in any other teaching field. Beyond this, there is little specific knowledge from a national perspective about the sources of supply of and the demand for bilingual and ESL teachers (BETs). The general purpose of this paper is to initiate a comprehensive analysis of the teacher work force in bilingual and ESL education in terms of supply and demand from a national perspective. This task is particularly timely now that a refined national data base has become available in the 1987-88 Schools and Staffing Survey (SASS) of the National Center for Education Statistics. This paper addresses three main topics:

- models: the description of several models for conceptualizing teacher demand, supply, and shortage (TDSS);
- data: the review and interpretation of published data on demand, supply, and shortage of BETs in accordance with the models presented; and the reporting of previously unpublished preliminary data on the characteristics of BETs from the 1987-88 SASS; and
- information needs and policy issues: the specification of major data needs to compute realistic and useful measures of demand, supply, and shortage of BETs; and the specification of major policy issues entailed in insuring a sufficient supply of fully qualified BETs.

Models

In general, TDSS can be conceptualized in terms of either a Prevalence Based Model or a Market Based Model. Teacher demand in the prevalence model is estimated by dividing the total number of students by the number of students to be assigned to each teacher. In contrast, teacher demand in the market model is determined by enumerating the number of approved and funded teaching positions. The total national supply of teachers, under both models, is derived from the following four main sources: (a) teachers continuing from the prior year, (b) new teachers entering directly from teacher preparation programs, (c) new teachers entering from a reserve pool composed of former teachers and of graduates of teacher preparation programs who delayed entry into teaching, and (d) new teachers entering the profession via alternative routes.

At the state or local level, a fifth source of new teachers is the transfer of practicing teachers from one school to another, one district to another, and/or one state to another. This transfer supply, of course, represents transfer attrition for schools from which teachers leave. An attrition model should distinguish between transfer attrition and exit attrition (i.e., teachers leaving the teaching profession for some other activity) because the former affects supply, while the latter affects demand. A Comprehensive Attrition Model was developed for this purpose and presented here.

In computation of the gross shortage of teachers, the total supply is subtracted from the total demand. However, shortage is usually intended to mean the shortage of fully qualified teachers as distinguished, for example, from teachers who do not hold regular or standard certification. A definition of fully qualified teachers could also include specifications for fluency in a language other than English, ethnicity, subject matter training, and other factors. However defined, the total supply of fully qualified teachers is subtracted from the total demand to compute shortage (or surplus, as occurs in some fields such as physical education).

In conclusion, several specific TDSS models are now capable of guiding efforts to estimate teacher demand, supply, and shortage. Furthermore, a new national data base (SASS) is available to provide most of the important data needed to generate such estimations.

Data

Organized and reported information relevant to the demand, supply, and shortage of BETs from a national perspective is extremely limited, and estimates of one key element to computing demand (viz., the number of LEP school-age children in the nation) vary so widely as to be of marginal utility.

The best national data are from a 1983-84 survey conducted by the National Center for Education Statistics. It showed that the shortage of fully qualified bilingual teachers was about 13 percent of bilingual teaching positions at the elementary and secondary levels, a shortage percentage much greater than that for science, mathematics, and special education. Only the shortage for foreign language teachers at the secondary level was comparable. Other evidence reviewed suggested considerable shortage of bilingual teachers, at least during the mid-1980s.

Preliminary national data from the 1987-88 SASS on characteristics of BETs indicated that: (a) BETs tended to be predominantly female (83 percent vs. 71 percent for teachers overall); (b) more BETs were of Asian and Pacific Islander background than were all teachers (5 percent vs. 1 percent); (c) a much higher percentage of BETs than of all teachers was of Hispanic origin (39 percent vs. 3 percent); (d) the percentages of both BETs and all teachers above the age of 50 were comparable (about 20 percent); (e) a somewhat smaller percentage of BETs than all teachers was not married (34 percent vs. 28 percent); (f) the average years of experience and education of BETs and all teachers were comparable; and (g) nine percent of BETs was not certified (at any level) to teach in their field. This percentage was much higher than the 1 percent reported four years earlier. Overall, these data raise questions about the qualifications of BETs in terms of sufficient level of certification and sufficient ethnic representation. The age distribution data do not suggest a massive shortage of BETs resulting from retirement in the near term.

Though the preliminary analyses from SASS reported herein provide some insight into the composition of the teaching force in bilingual and ESL education, they do not answer many other important questions about the demand, supply,and shortage of BETs from a national perspective. For example, national estimates of BETs who are fully certified and who are not fully certified in their primary teaching assignments are needed to compute the size of the supply who are qualified in this respect. This and much more important information can be obtained by further analyses of SASS data from 1987-88.

Policy Issues

The analysis of TDSS policy issues in bilingual and ESL education requires a great deal of factual data to compute realistic and useful measures of teacher demand, supply, and shortage. Much of it is now available from the NCES 1987-88 Schools and Staffing Survey, though it has not yet been intensively exploited to its full capability to yield precise and credible measures of many of the fine-grained concepts that are part ofTDSS models. Such major data needs to include: (a) the number of BETs teaching positions funded by LEAs, stratified by a number of factors such as teaching subject, grade level, non-English language requirements, etc.; (b) the number of LEP students needing instruction; (c) the number and qualifications of BETs, also by appropriate strata; (d) the proportionate sources of supply of BETs; (e) the numbers of BETs leaving the field annually, either for other teaching positions or for other activities; and (f) estimates of the shortage of BETs, also by appropriate strata.

To the extent that such information about demand, supply, and shortage identified above is produced, the dynamics of the teacher work force in bilingual and ESL education will be understood in depth from a national perspective. In turn, to the extent the dynamics of this teacher work force is understood, it will be possible to address many policy issues directly relevant to creating and maintaining a qualified work force. Some of the these major policy issues are:

- What attributes define qualified bilingual and ESL teachers?
- How can supply of BETs be enhanced most productively?
- What working conditions can be manipulated, and at what cost, to improve retention of qualified BETs?
- Why do fully qualified teachers leave the profession, and what policies can be adopted to reduce exit attrition?
- To what extent do qualified BETs leave teaching temporarily, and what policies can be established to induce them to return to teaching with minimal delay?
- How can teacher training be designed to improve the rate at which graduates enter and remain in teaching?
- What personal attributes of prospective teachers are predictive of success in teacher preparation programs, of entry into the teaching profession, and of retention in the profession, and what policies can be adopted to identify and recruit such individuals into teacher education?

Conclusions

Although the analysis of teacher demand, supply, and shortage in bilingual and ESL education is a complex matter, this paper has shown (a) that analytic tools are available in terms of conceptual models that can be applied to the task, and (b) that a powerful new data base, the 1987-88 Schools and

Staffing Survey, is capable of supporting intricate empirical studies of a wide variety of central factors. Thus, there is now great potential to understand much more deeply than heretofore the dynamics of the teacher labor force in bilingual and ESL education and to formulate and test policy alternatives that have promise for reducing the serious shortage of qualified teachers in these closely related fields.

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END NOTES

[1] If the number of fully-qualified applicants in a field of teaching exceeds the demand (as in physical education), a teacher surplus exists.

[2] Though this definition of teacher shortage is reasonable, of teachers with probationary certificates (those who have completed all requirements for a regular or standard state certificate except for the completion of a probationary period) could be regarded as fully-qualified for this purpose.

[3] As developed in detail by Gilford and Tanenbaum (1990), the definition of a qualified teacher in terms of certification status is the weakest common indicator of quality. Nonetheless, certification status applies especially to public school teachers, whereas private school teachers typically are not required to establish a certification status.

[4] CAN, as presented here, is developed with respect to teachers in public schools. It could easily be elaborated further to account for teachers in private schools, and private school teacher data in SASS will support analysis of teacher attrition in the private school sector.

[5] Transfer attrition to private schools, for example, could be added as a fifth horizontal block.

[6] Frankel and Stowe's (1990) data indicate that about 60% of newly graduated teachers actually assume a teaching position in the following year. It is possible the percentage of BETs entering teaching is higher, but even an 80% rate would add only 280 more BETs nationally that the 60% rate.

[7] The results presented in this paper are from the new NCES Schools and Staffing Survey. Although they have undergone initial review, they should be viewed as preliminary since additional processing to impute for missing values, etc., is yet to be done. NCES believes that the general patterns seen will continue to hold when the data are finalized, though individual numbers may change. Technical notes pertaining to the SASS data reported here are presented in Appendix A. The standard errors for the statistics reported in Tables 4 through 10 are presented in Tables 4S through 10S of Appendix B. All comparisons cited in the text are statisticallyt significant at the .05 level unless toherwise noted.

[8] The other SASS samples were as follows: 5594 public school districts and the administrators (principals) of schools in the public and private school samples.

APPENDIX A

Data Bases Relevant to TDSS Research

DATA BASES RELEVANT TO TDSS RESEARCH

Use of the national TDSS framework described above requires quantification of the parameters specified. Until recently, however, no adequate data base existed for analyzing TDSS from a national perspective. Fortunately, the NCES Schools and Staffing Survey (1987-88), in combination with its associated Teacher Followup Survey (1989), now provides a rich data base adequate to this purpose. Accordingly, the purpose of this section is to describe these two surveys and other data bases relevant to TDSS.

The Schools and Staffing Survey

The Schools and Staffing Survey was first administered during the 1987-88 school year and is planned to be administered biennially beginning in 1991. It was composed of four basic questionnaires with minor variations for units in the public and private sectors, as shown in Table 1 along with other basic descriptive information.

Teacher Demand and Shortage Questionnaire

This survey of public school districts and private schools concentrated on demand for and shortages of teachers and on a variety of policies affecting demand and shortage.

Administrator Questionnaire

This survey of school principals concentrated on their background characteristics and qualifications and their perceptions of school conditions.

School Questionnaire

This survey of schools concentrated on programs, policies, conditions, student characteristics, staffing patterns, and turnover.

Teachers Questionnaire

This survey of teachers concentrated on their demographic and socioeconomic characteristics, work histories, qualifications and teaching assignments, working conditions, and perceptions of school climate. It provides for a detailed analysis of the sources of teacher supply, including transfers among schools and/or teaching fields. (Table 1)

SASS was designed so that schools were the primary sampling unit. Once a school was selected for the sample, the principal of that school was selected for the Administrator Questionnaire and a sample of four to eight

Table 1

Description of the Schools and Staffing Survey (SASS)

Questionnaire	Sector Public	 Private	 Both
1. Teacher Demand and Shortage	X	X	
2. Administrator			X
3. School	X	X	
4. Teacher	X	X	

Sample Size

1. Public Sector	2. Private Sector
A. 5,600 Districts	A. - - -
B. 9,300 Schools	B. 3,500 Schools
C. 9,300 Principals	C. 3,500 Principals
D. 52,000 Teachers	D. 13,000 Teachers

Samples Representative Of

1. Public and private schools, principals, and teachers nationally
2. Elementary and secondary education levels nationally
3. Each state in the public sector

teachers from that school was selected for the Teacher Questionnaire. Finally, in the public sector, the district in which the school was located was selected for the Teacher Demand and Shortage Questionnaire. This design, therefore, permits the linking of data from one questionnaire to another. For example, teachers' perceptions of school climate can be compared with the perceptions of the principals of their schools. As another example, teacher attrition from schools can be analyzed from the perspective of district policies relevant to teacher demand and shortage.

SASS was administered in the form of mail questionnaires with extensive telephone followup. Consequently, questionnaire response rates were high — on the order of 90 percent in the public sector and 80 percent in the private sector.

SASS also has a small but important longitudinal component termed the Teacher Followup Survey. During Spring, 1989, one year after the base survey, the approximately 2500 teachers who left the teaching profession at the end of the 1987-88 school year were sent the Questionnaire for Former Teachers. In addition, a representative sample of approximately 4700 teachers who remained active in the profession were sent the Questionnaire for Current Teachers. This latter group was subdivided equally into: (a) teachers who remained in the same school and (b) teachers who transferred to a different school. The response rate for this survey was 93 percent for teachers who left and 97 percent for teachers who remained in the profession.

The Teacher Followup Survey, linked with SASS, permits, for the first time at the national level, the study of attrition from the profession of a representative sample of teachers. Furthermore, three further followup surveys of these teachers are planned for 1992, 1993, and 1995. Consequently, it will also be possible to study, from a national perspective, reentry into the profession of experienced teachers from the reserve pool.

Other National Surveys

A variety of national sample surveys during the 1980s include data relevant to one or more of the data elements identified above in the national TDSS framework. All but one have been conducted by NCES. The exception is periodic surveys of public school teachers by the National Education Association (NEA, 1987). Unfortunately, information on BETs is not one of the teaching fields on which NEA reports data.

Other than SASS, the NCES survey most relevant to TDSS is the 1983-84 Survey of Teacher Demand and Shortage (Sietsema, 1987). It includes data specific to the shortage of bilingual teachers. Other NCES surveys which provide data relevant to some TDSS variables include: (a) the 1985

Public School Survey — Teacher Questionnaire; (b) the 1985-86 National Survey of Private Schools - A Teacher Questionnaire; (c) the 1987 Recent College Graduate Study (Frankel and Stowe, 1990); (d) the Teacher Supplement and Questionnaire to the National Longitudinal Study of 1972; (e) the Teacher Survey of the National Education Longitudinal Study of 1988; and (f) the annual Higher Education General Information Surveys, which report the number of college graduates by field of study (including both bilingual education and ESL).

Other Data Sources

Other than national surveys, the principal sources of TDSS data are state administrative records applicable to its teacher work force. The most recent and extensive study (Macias, 1989) of TDSS with respect to BETs was based in substantial part on teacher data from administrative records of California, Texas, and New York. A major effort is currently underway at the Massachusetts Institute for Social and Economic Research (Coelen and Wilson, 1987) to assemble and refine administrative records pertaining to teachers and student enrollment from all New England states plus New York for the past decade or more. When complete, this data base will permit forecasting of teacher demand and shortages by econometric methods in the Northeastern Region. Many other researchers (e.g., Murnane and Olson, 1990) have likewise used state data bases for studying TDSS. In addition to not providing an overall national perspective, these state data bases do not normally record out-of-state transfer attrition which, from the perspective of a particular state, therefore appears to be exit attrition.

Finally, some TDSS data are not available from either national surveys or state administrative records. For example, the size and composition of the active reserve pool (i.e., qualified teachers seeking teaching appointments) is an important consideration in assessing the potential supply of new teachers from this source. To capture such information, special focused studies are typically required (e.g., see Friedman and Salinas, 1990).

APPENDIX B

SASS Technical Notes

SASS TECHNICAL NOTES

For Public and Private School Teachers Questionnaires

Introduction

The data for this paper were collected on the Public School and Private School Teachers Questionnaires, two of seven questionnaires comprising the 1987-88 Schools and Staffing Survey (SASS), a survey developed by the U.S. Department of Education's National Center for Education Statistics (NCES) and conducted by the U.S. Bureau of the Census.

SASS was a mail survey which collected public and private sector data on the nation's elementary and secondary teaching force, aspects of teacher supply and demand, teacher workplace conditions, characteristics of school administrators, and school policies and practices. The seven questionnaires of the SASS are as follows:

1. The Teacher Demand and Shortage Questionnaire for Public School Districts (LEAs);
2. The Teacher Demand and Shortage Questionnaire for Private Schools;
3. The School Administrator Questionnaire;
4. The Public School Questionnaire;
5. The Private School Questionnaire;
6. The Public School Teachers Questionnaire; and
7. The Private School Teachers Questionnaire.

Sample Selection

All 56,242 public and 11,529 private school teachers in the teacher samples were selected from the 9,317 public and 3,513 private school samples.

A list which included all full-time and part-time teachers, itinerant teachers, and long-term substitutes was obtained from each sample school. Within each school, teachers were stratified by experience; one stratum included new teachers, and a second stratum included all other teachers. New teachers were those who, counting the 1987-88 school year, were in the first, second, or third year of their teaching career in either a public or private school system. Within each teacher stratum, teachers were sorted by subject (General Elementary Education, Special Education, Mathematics, Science, English, Social Science, Vocational Education, other).

The public and private school teacher samples were designed to include a basic sample and a bilingual/ESL(English as a Second Language) supplement. The bilingual/ESL supplement included teachers who use a native language other than English to instruct students with limited English proficiency (bilingual) and teachers providing students of limited English proficiency with intensive instruction in English (ESL). The supplement was funded by the Department of Education's Office of Bilingual Education and Minority Language Affairs (OBEMLA) in order to obtain more reliable estimates of bilingual/ESL education teachers.

The basic sample of teachers required for each of the public and private school strata was allocated to the sample schools in each stratum so that the teacher weights were equal. The specified average teacher sample size for each sample school (four, eight, and six teachers for each public elementary, secondary, and combined school, respectively; and four, five, and three teachers for each private elementary, secondary, and combined school, respectively) was then allocated to the two teacher strata to obtain an oversampling of new private school teachers at a fixed rate and proportional allocation of public school teachers. Finally, a systematic sampling scheme was then applied to select the basic sample within each teacher stratum. An independent systematic sampling scheme was applied to bilingual teachers in each sample school to select the bilingual supplement. To control the number of teachers in each of the six bilingual strata (California, Texas, Florida, Illinois, New York, and all other states), the supplement was subsampled systematically with equal probabilities by stratum. Teachers selected in both the supplement and the basic sample were unduplicated so that each teacher appears only once.

The sample sizes were as follows:

-Public nonbilingual	53,394	-Private nonbilingual	11,248
-Public bilingual	2,848	-Private bilingual	281

Data Collection

The Teachers Questionnaires were mailed to the sampled schools in February, 1988. Approximately ten days after this mailout, a letter was sent to the survey coordinator in each school identifying the school's sample teachers and requesting the coordinator to remind the sample teachers to complete and return their questionnaires. Approximately six weeks after the mailout, a second set of questionnaires, for sample teachers who had not returned the first questionnaire, was sent in a package to the school coordinators for distribution to nonresponding teachers. During the time of this second mailout, each coordinator was telephoned and asked to remind those teachers who had not returned the first questionnaire to complete the second one and mail it back. A telephone follow-up was conducted during April, May, and June. Because of the large number of nonrespondents and the necessity for completing the follow-up prior to the closing of schools for the summer, only a subsample of nonresponding teachers was included in this effort. This subsample of nonresponding teachers had their weights adjusted to represent the nonresponding teachers who were not selected for the followup.

Questionnaire Response Rates

Weighted response rates were 86.4 percent for the Public School Teachers Questionnaire and 79.1 percent for the Private School Teachers Questionnaire.

Item Description

The Public and Private School Teachers Questionnaires are almost identical and are available from NCES and/or the author.

Effects of Item Nonresponse

There was no explicit imputation for item nonresponse. Not imputing for item nonresponse leads to a bias in the estimates. In tables which present averages, the nature of this bias is unknown.

Standard Errors

The estimates in these tables are based on samples and are subject to sampling variability. Standard errors were estimated using a balanced repeated replication procedure that incorporates the design features of this complex sample survey. The standard errors provide indications of the accuracy of each estimate. If all possible samples of the same size were surveyed under the same conditions, an interval of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the universe value in approximately 95 percent of the cases. Note, however, that the standard errors in the tables do not take into account the effects of biases due to item nonresponse, measurement error, data processing error, or other systematic error.

Definition of Teacher

For purposes of this survey, a teacher was any full-time or part-time regular teacher whose primary assignment was teaching in any teaching field in any grade K-12. Itinerant teachers were not included, nor were long-term substitutes who were filling the role of a regular teacher on an indefinite basis. Teachers classified as Elementary or Secondary had to meet one of the following conditions:

Elementary

1. a teacher who checked the "ungraded" option only in item 24 (which asks for grades being taught) and was designated as an Elementary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ in the tape documentation);
2. a teacher who checked 6th grade or lower and no grade higher than 6th in item 24, or 6th grade or lower and "ungraded" and no grade higher than 6th;
3. a teacher who checked 6th grade or lower and 7th grade or higher and entered a primary assignment code of "01", "02", or "03" in item 16a;
4. a teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of "01", "02", or "03" in item 16a;
5. a teacher who checked 6th grade or lower and 7th grade or higher in item 24 and entered a primary assignment code of Special Education in item 16a and was designated as an Elementary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ);
6. a teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of Special Education in item 16a and was designated as an Elementary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ); and

Secondary

1. a teacher who checked the "ungraded" option only in item 24 and was designated as a Secondary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ in the tape documentation);

2. a teacher who checked 6th grade or lower and 7th grade or higher in item 24 and entered a primary assignment code greater than 03 in item 16a;

3. a teacher who checked 9th grade or higher, or 9th grade or higher and "ungraded";

4. a teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of "04" or higher but not Special Education in item 16a;

5. a teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of Special Education in item 16a and was designated as a Secondary teacher on the list of teachers obtained from each sample school (code "03" or higher for variable name TSUBJ); and

6. all other teachers who checked 6th grade or lower and 7th grade or higher in item 24, or 7th and 8th grades only, and were not categorized above as either Elementary or Secondary.

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The draft manuscript of this report was reviewed by Susan Ahmed of the Statistical Standards and Methodology Division. Robert S. Burton, Elementary/Secondary Education Statistics Division, was the mathematical-statistical consultant for these notes.

For More Information

For information about purchasing SASS data tapes on public and private school teachers, call Information Services, Office of Education Research and Improvement, U.S. Department of Education (1-800-424 1616).

For more information about these technical notes, contact Sharon A. Bobbitt, Elementary and Secondary Education Statistics Division, National Center for Education Statistics, U.S. Department of Education, 555 New Jersey Avenue N.W., Washington, D.C., 20208-5651, telephone (202) 357-6461.

APPENDIX C

Tables of Standard Errors

Table 3S.--Standard errors for average years teaching in current school of English as a second language and bilingual education by sector, level, and selected characteristics: 1987-88 (table 3)

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	0.17	0.21	0.36	0.67	1.09
Sex					
Male	0.56	0.62	0.84	2.79	2.21
Female	0.18	0.23	0.26	0.68	1.10
Not reported	2.40	2.78	---	---	---
Race					
Am. Indian, Aleut, Eskimo	0.83	1.02	1.72	2.41	---
Asian or Pacific Islander	0.56	0.82	0.62	2.31	---
Black	0.62	0.71	1.52	---	---
White	0.20	0.23	0.40	0.77	1.10
Not reported	0.46	0.57	0.88	---	---
Ethnic origin					
Hispanic	0.23	0.28	0.40	1.23	4.07
Non-Hispanic	0.24	0.31	0.50	0.80	0.81
Not reported	0.88	1.75	1.29	---	---
Age					
Less than 30	0.09	0.10	0.26	0.68	0.94
30 to 39	0.19	0.22	0.39	1.22	0.80
40 to 49	0.28	0.35	0.56	0.99	1.05
50 or more	0.51	0.64	0.78	2.07	3.40
Not reported	1.00	1.81	0.91	---	2.96
Marital Status					
Married	0.18	0.20	0.48	0.70	1.50
Widowed, divorced, or separated	0.40	0.50	0.71	1.85	3.96
Never married	0.32	0.43	0.45	1.86	3.34
Not reported	1.45	2.18	0.38	---	---
Region					
Northeast	0.41	0.58	0.43	1.80	2.40
North central	0.74	0.94	1.27	1.91	2.64
South	0.33	0.38	0.58	1.25	2.29
West	0.29	0.34	0.49	1.16	1.76

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

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Table 48.--Standard errors for percent of teachers of English as a second language and bilingual education, by sector, school level, and selected characteristics: 1987-88 (Table 4).

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Sample size	1,848	1,118	614	64	52
Sex					
Male	1.18	1.14	2.36	4.08	7.88
Female	1.18	1.19	2.33	4.08	7.88
Not reported	0.19	0.26	---	0.00	0.00
Race					
Am. Indian, Aleut, Eskimo	0.28	0.24	0.51	5.18	---
Asian or Pacific Islander	0.61	0.85	1.15	5.00	---
Black	0.74	0.99	0.78	---	---
White	0.86	1.17	1.76	7.38	3.24
Not reported	0.60	[illegible]	1.25	---	---
Ethnic origin					
Hispanic	1.49	2.29	2.52	7.13	7.97
Non-Hispanic	1.53	2.24	1.53	7.15	7.95
Not reported	0.37	0.45	0.74	---	---
Age					
Less than 30	0.95	1.16	1.50	7.50	9.50
30 to 39	1.14	1.49	2.08	5.92	6.90
40 to 49	1.03	1.34	2.43	6.65	10.82
50 or more	1.34	1.68	2.15	3.53	6.90
Not reported	0.31	0.32	0.73	---	2.59
Marital Status					
Married	1.21	1.62	1.71	8.66	8.68
Widowed, divorced, or separated	1.27	1.63	1.73	4.02	6.23
Never married	0.90	1.09	1.49	6.03	7.13
Not reported	0.27	0.29	0.66	---	---
Region					
Northeast	1.18	1.17	2.56	6.52	9.86
North central	1.15	0.93	3.11	3.97	3.15
South	1.92	2.46	1.79	11.13	13.30
West	1.94	2.34	3.29	9.28	7.18

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 5S.--Standard errors for percent of total public and private teachers by sector, school level, and selected characteristics: 1987-88 (Table 5)

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Sample size	47,357	17,391	23,202	3,981	2,783
Sex					
Male	0.24	0.26	0.37	0.62	1.44
Female	0.24	0.26	0.38	0.61	1.45
Not reported	0.04	0.63	0.05	---	0.11
Race					
Am. Indian, Aleut, Eskimo	0.46	0.07	0.08	0.16	0.19
Asian or Pacific Islander	0.05	0.07	0.05	0.34	0.33
Black	0.18	0.27	0.27	0.39	0.27
White	0.21	0.31	0.29	0.60	0.54
Not reported	0.07	0.12	0.09	0.25	0.25
Ethnic origin					
Hispanic	0.10	0.20	0.11	0.33	0.71
Non-Hispanic	0.14	0.25	0.15	0.42	0.67
Not reported	0.07	0.13	0.10	0.30	0.35
Age					
Less than 30	0.16	0.25	0.20	0.84	1.04
30 to 39	0.26	0.46	0.34	0.87	1.07
40 to 49	0.23	0.48	0.34	1.12	1.22
50 or more	0.22	0.37	0.30	1.00	1.02
Not reported	0.06	0.08	0.09	0.27	0.27
Marital Status					
Married	0.25	0.42	0.37	1.22	1.10
Widowed, divorced, or seperated	0.17	0.28	0.26	0.60	0.71
Never married	0.22	0.33	0.28	1.09	0.93
Not reported	0.06	0.08	0.08	0.39	0.33
Region					
Northeast	0.24	0.30	0.33	1.17	1.66
North central	0.23	0.37	0.43	1.24	1.00
South	0.25	0.37	0.41	1.68	1.84
West	0.18	0.29	0.28	0.82	1.20

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 6S.--Standard errors for average number of years of full-time teaching experience of teachers of English as a second language and bilingual education, by sector, school level, and selected characteristics: 1987-88 (Table 6)

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	0.23	0.28	0.44	0.98	1.43
Sex					
Male	0.65	0.69	0.97	4.58	2.47
Female	0.24	0.32	0.32	0.99	1.64
Not reported	2.72	3.19	2.04	---	---
Race					
Am. Indian, Aleut, Eskimo	1.22	2.16	2.57	4.70	---
Asian or Pacific Islander	0.73	1.09	1.18	3.11	---
Black	0.81	0.92	2.54	---	---
White	0.26	0.31	0.46	1.04	1.47
Not reported	0.62	0.58	1.77	---	---
Ethnic origin					
Hispanic	0.33	0.44	0.81	2.28	2.66
Non-Hispanic	0.32	0.39	0.55	1.07	1.42
Not reported	1.23	2.02	2.11	---	--
Age					
Less than 30	0.12	0.12	0.28	0.79	1,63
30 to 39	0.16	0.22	0.35	1.17	1.03
40 to 49	0.32	0.47	0.55	3.36	1.95
50 or more	0.58	0.78	1.08	2.85	3.85
Not reported	1.31	1.91	1.51	---	2.68
Marital Status					
Married	0.28	0.31	0.54	1.29	1.88
Widowed, divorced, or separated	0.61	0.75	1.02	2.20	3.71
Never married	0.43	0.53	0.81	2.51	4.81
Not reported	1.97	3.16	2.54	---	---
Region					
Northeast	0.34	0.50	0.64	1.08	2.85
North central	0.69	0.69	1.10	2.46	5.81
South	0.48	0.58	0.79	1.81	3.25
West	0.37	0.45	0.88	2.43	2.49

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 7S.--Standard errors for average number of years of full-time teaching experience of total public and private science teachers, by sector, school level, and selected characteristics: 1987-88 (Table 7)

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Total teachers	0.05	0.07	0.05	0.21	0.27
Sex					
Male	0.08	0.21	0.08	0.65	0.49
Female	0.05	0.07	0.09	0.23	0.36
Not reported	0.71	1.10	0.93	---	1.76
Race					
Am. Indian, Aleut, Eskimo	0.43	0.78	0.58	2.36	3.18
Asian or Pacific Islander	0.46	0.71	0.79	1.62	1.83
Black	0.19	0.26	0.26	0.81	2.33
White	0.05	0.07	0.05	0.21	0.29
Not reported	0.45	0.76	0.46	2.41	1.69
Ethnic origin					
Hispanic	0.22	0.33	0.44	1.80	1.20
Non-Hispanic	0.04	0.07	0.05	0.21	0.27
Not reported	0.37	0.65	0.43	1.16	2.01
Age					
Less than 30	0.03	0.05	0.05	0.07	0.12
30 to 39	0.05	0.06	0.06	0.25	0.20
40 to 49	0.06	0.10	0.09	0.26	0.39
50 or more	0.14	0.20	0.14	0.86	0.87
Not reported	0.42	0.77	0.66	1.56	1.36
Marital Status					
Married	0.05	0.06	0.06	0.30	0.31
Widowed, divorced, or separated	0.14	0.18	0.19	0.74	0.92
Never married	0.13	0.22	0.17	0.41	0.67
Not reported	0.50	0.86	0.73	1.46	2.56
Region					
Northeast	0.12	0.15	0.15	0.42	0.48
North central	0.10	0.16	0.13	0.28	0.45
South	0.09	0.12	0.12	0.65	0.51
West	0.10	0.15	0.14	0.42	0.48

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

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Table 8S.--Standard errors for percent of teachers of English as a second language and bilingual education, by sector, school level, and highest degree earned: 1987-88 (Table 8)

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Sample size	1,848	1,118	614	64	52
No degree	0.44	0.35	0.38	8.10	11.14
Associate's degree	0.27	---	0.35	4.44	---
Bachelor's degree	1.25	1.43	2.35	5.46	---
Master's degree	1.18	1.27	2.28	6.60	12.11
Education specialist	0.83	0.92	1.34	---	2.45
Ph.D.	0.31	0.30	0.80	---	---
First professional	0.14	---	0.22	---	---

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 9S.--Standard errors for percent of total public and private teachers, by sector, school level, and highest degree earned: 1987-88 (Table 9)

Characteristic	Total	Public		Private	
		Elementary	Secondary	Elementary	Secondary
Sample size	47,357	17,391	23,202	3,981	2,783
No degree	0.05	0.01	0.04	0.57	0.33
Associate's degree	0.04	0.01	0.07	0.33	0.27
Bachelor's degree	0.29	0.45	0.37	1.00	1.01
Master's degree	0.28	0.45	0.36	0.85	1.06
Education specialist	0.12	0.22	0.18	0.33	0.57
Ph.D.	0.05	0.06	0.07	0.13	0.52
First professional	0.02	0.02	0.03	0.06	0.14
Not reported	---	---	---	---	---

--Too few cases for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88.

Table 10S.--Standard errors for percent of public school teachers of English as a second language and bilingual education, with various levels of qualification: 1987-88 (Table 10).

Qualifications	Standard errors of percent
Majored and certified	1.85
Majored, but not certified	0.68
No major, but certified	2.03
Not major, not certified	1.10

NOTE: Details may not add to totals due to rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, School and Staffing Survey, 1987-88.

POPULATION ESTIMATES OF SCHOOL AGE LANGUAGE MINORITIES AN LIMITED ENGLISH PROFICIENCY CHILDREN OF THE UNITED STATES, 1979 - 1988

Jorge Chapa

INTRODUCTION

The goal of this paper is to present recent (1988) estimates of the school age language minority and limited English proficiency (LEP) populations. This goal will be achieved using data sources and analytic procedures not typically used for this purpose. Another goal of this paper will, therefore, be to present this analytic approach so that it may be examined, criticized and refined for future use. The obstacle to providing a direct estimate of these population groups is that there is no currently available recent, large-scale data source with national coverage which contains the information required for a direct estimate. The size of the language minority and LEP population to be presented here will be the result of recent demographic estimates of the school age population combined with rates of incidences or proportions of minority language and LEP children among these demographic groups taken from older data sources.

The key and, perhaps, unique feature of the analytic procedure used here is to disaggregate the school age population into demographic groups or categories based on racial or ethnic group and generation. These two categories define demographic groups which have different proportions of language minority and LEP children. "Generation" refers to the standing of the child in elation to immigration to this country. I will use "first generation" to refer to a person who was born in a foreign country and then immigrated to the United States. A second generation child is one born in the United States but who had one or two foreign-born parents. The third generation consists of the US-born children of two US-born parents. Since this schema defines generation in terms of the individual's and parents' place of birth, it cannot discern between third, fourth, fifth, etc. genealogical generations. The third generation defined by parental place of birth is thus composed of the third and third-plus genealogical generations. (See Lopez, 1978; and Floyd, 1985 for a discussion.)

The appeal of using generation to estimate these linguistically defined population groups is that the notion of generation is directly related to the concept of language shift. The general and fairly consistent pattern found among European immigrants to the United States is that immigrants from non-English-backgrounds, i.e., the first generation, acquire speaking some English for economically instrumental purposes but primarily use the foreign tongue at home. Their children, the second generation, initially learn the non-English language but become predominantly English-speaking over the life course. The third generation are typically monolingual English speakers (Oxford, et al., 1980, pp. 118-120; Fishman, et al., 1966). If Spanish-speaking immigrants follow the same pattern of language shift, they do so at a slower rate than the typical three-generation European pattern, and the overall pattern of language maintenance and language shift may well be different (Macias, 1985; Oxford, et al., 1980, pp. 118-120). These considerations lay the basis for conducting this analysis in terms of generational and racial-ethnic differences.

Data and Definitions

The analyses which will be presented in this paper were based on an analysis of the machine-readable data files of the November 1979 and June 1988 Current Population Surveys (CPS). The CPS is a monthly survey of approximately 53,000 households across the United States. The CPS is conducted by the US Bureau of the Census primarily to determine employment levels and other labor force and economic characteristics. Each CPS questionnaire also contains a set of supplemental questions asked on a rotating or ad hoc basis. The November 1979 CPS is the most recent publicly available CPS data file to include supplemental questions regarding language use and ability. It also included questions on immigration, nativity and parental place of birth. These are the data items required to attribute generational status as defined above. The 1980 Census included some of the same language-related questions, but it did not ascertain parents' place of birth. As discussed above, both the individual's and the parents' nativity are needed to attribute generation as typically defined. For this reason, the November 1979 CPS is preferable over 1980 Census data for the purposes of this paper.

The June 1988 CPS has supplemental questions on fertility and immigration. The data presented here were collected in June 1988. The tabulating and processing of these data typically takes more than a year. Therefore, the June 1988 CPS is one of the most current, detailed data sets available. The inclusion of the supplemental questions on immigration make it a particularly useful source of information on minority children. It is possible to estimate the size of the school-age population by race-ethnicity and generation. (See U.S. Bureau of the Census, 1978, 1981, and 1989, for further description and documentation.) The major problems with CPS data are that they are relatively tricky and complicated to use and that using 53,000 households results, in some cases, in a relatively small sample size for analyzing the characteristics of small population subgroups.

This discussion will analyze and present data for four different and mutually exclusive race-ethnic groups: Blacks, Anglos, Hispanics and Asian and others. "Latino" is growing in preference over the use of the term "Hispanic." To reflect this and still be consistent with those who continue to use "Hispanic," I will use the terms interchangeably. (See Hayes-Bautista and Chapa, 1987 for a discussion of the use of "Latino" rather than "Hispanic" identifier.) Anglos might be more familiarly known as "white non-Hispanics" or "white non-Latinos." In my tabulations, the relatively small proportion of Blacks who are also Hispanic are grouped with Hispanics. So Blacks or African Americans do not overlap with Latinos in my tabulations. Finally, the group Asian and other races is also exclusive of Hispanics. The small number of Asian, Pacific Islander, Native American or Aleutian Islander respondents in the CPS sample permits this group to be referred only to in the aggregate. The label "Asian" will be used to be synonymous with "Asian" and "Pacific Islanders." "Minority" refers to all non-Anglo groups; i.e., Blacks, Hispanics and Asians and others taken together.

For the sake of clarity and consistency, I will rephrase the basis of defining different generations as discussed above. The nativity of an individual's parents was the basis for identifying different generations. I define the third generation as consisting of the US-born children of US-born parents. This category includes all those who have been in this country for more than three generations as well. The second generation consists of a person born in the United States with one or two foreign-born parents. The first generation refers to foreign- born immigrants with foreign-born parents.

It is important to make clear that my use of generational groups is not based on the assumption that the cross-sectional comparison of first, second and third generation individuals at one point in time does not necessarily reflect or replicate longitudinal changes over historical time. While this type of analysis is common in the sociology of immigration and minority groups, it is logically incorrect to assume that the differences in the attributes among the three generations accurately and inevitably represent a longitudinal pattern. The differences between generations may recapitulate a historical pattern, but they do not necessarily indicate a future trend. A comparison among the first, second and third generations in a cross-section does not predict the future attainments of the children and grandchildren of the first generation immigrant. (See Chapa, 1988 for a theoretical and empirical critique of this logic. Bean and Tienda, 1987; and Hart-Gonzalez, 1988 and 1990 present other arguments against this assumption.) Differences between generations as presented here are a cross-sectional representation of one point in time. My use of generational characteristics is based on the consideration that generation is a major determinant of non-English languages background (NELB) status. I assume, for example, that third generation proportions of NELB Hispanic children will be the same in 1988 as in 1979. This is different from assuming that the proportion of third generation NELB Hispanics represents or in any way approximates the future proportion of NELB among the children of today's second generation Hispanics.

The school age population consists of all children between the ages of 5 through 17 inclusively. By using CPS data to estimate the size and characteristics of this group, I limit my analysis to the civilian non-institutional population between these ages. There is no reason to expect much of a difference between this and the total population in this age group but, no doubt, differences do exist.

The concepts and definitions of minority language and limited English proficiency have a decisive impact on the results of an analysis such as this. In a comprehensive, close-grained analysis of several previous publications estimating these populations, Reynaldo Macias and Mary Spencer find LEP population estimates ranging from less than 1,000,000 to more than 5,000,000. A major component in explaining these differences was the use of different definitions or criteria for determining language minority and LEP status (Macias and Spencer, 1984, p. xiv et passim.) There are many different alternative conceptualizations and definitions possible. Many of these are more closely tied to specific aspects of the laws, regulations or rulings promulgating bilingual education programs. Whatever advantages these alternative definitions may have, the data to use then for current demographic estimates are simply not available. My procedure here is to operationally equate the minority language population with that in which the individual child reportedly used a non-English language in his or her home as presented in data from the November 1979 CPS. This is also one definition of the category known as non-English language background or NELB. For convenience and brevity I will use the acronym NELB both in its specific meaning and as the equivalent of the minority language population in this paper. (For a discussion of the formulation and consequences of different definitions see Macias and Spencer, 1984; Oxford, et al., 1980, pp. 35-37, et passim; and Waggoner, 1984). A review of these same documents will show that NELB as used here is a common and a numerically conservative estimate of the minority language population.

Methods and Assumptions

While the intended methodology has been alluded to above, this section will present it in summary form and explicitly present and discuss its assumptions and limitations. The goal of deriving recent estimates of the minority language and LEP school age population will be accomplished by deriving estimates of the civilian non-institutional population between the ages of five through seventeen from the June 1988 CPS. These population estimates will be presented in terms of generation and race-ethnicity. I will derive the same race-ethnic-generation specific estimates for 1979 from the November 1979 CPS. In addition, I will estimate the proportion of each race-ethnic group by generation who are reported to speak a non-English language in the home in 1979. I will assume that the proportions of the 1988 race-ethnic-generation groups who are NELB are the same as in 1979. This will be the basis for estimating the Spanish and other-non-English NELB populations for 1988. NELB population estimates are used as the basis for estimating the minority language population. I will use these calculated NELB estimates to further calculate the LEP population in 1988. I will follow this same procedure by using the Spanish and Other non-English LEP-to-NELB ratios calculated on the basis of the Children's English and Services Study (CESS). This study included a detailed assessment of English speaking, understanding, reading and writing skills for children ages 5-14 (Macias and Spencer, 1984, pp. 89-107). This procedure assumes that my operational basis for estimating the NELB population is reasonable and that the LEP-to-NELB ratios were the same in 1988 as they were in 1979. I am also assuming that this ratio can be extended to the children between the ages of 15-17.

One way of evaluating this procedure is to compare it to that involved in projecting the future NELB and LEP population totals as presented in Oxford, et al., 1980. Their projection procedure makes the same assumptions regarding the future proportions of NELB population and LEP-to-NELB ratios, plus all the assumptions necessary about future birth, death and immigration rates to project the population base upon which to calculate the LEP and NELB populations. Using actual population estimates rather than projections gives these results a higher degree of reliability and credibility than those derived from population projections. Additionally, the use of race-ethnic-generation specific NELB proportions makes the NELB population estimate more precise because it takes account of the variation in composition by generation between the two points in time. To explain, the proportion of NELB children is very different from one generation to the next and the proportion differs among the different race-ethnic groups. The procedure of estimating the population number of specific race-ethnic-generation groups provides a more precise basis for estimating NELB and LEP populations. So this technique can more accurately calculate NELB populations to reflect the sharp increase in foreign immigration between 1979 and 1988. A procedure that did not take this into account would less fully account for a change which has a major impact on the NELB population. The best way to improve these estimates would be to get current measures of NELB and LEP population proportions by the same race-ethnic-generation specific groups. Data collected but not yet released by the Census Bureau will soon make this possible.

Results

Table 1 presents the number of school age children by race-ethnicity and NELB for November 1979. The purpose of this tabulation is to show how NELB proportions vary tremendously from group to group. Only 3 percent

TABLE 1

Non-English home language use among children ages 5-17
by race-ethnicity
United States, 1979
Source: Tabulations from the November 1979 Current
Population Survey

	ANGLO		HISPANIC		BLACK		ASIAN		TOTAL	
No	34,333,130	97%	764,040	25%	6,746,084	99%	543,955	56%	42,387,210	91%
Yes (NELB)	1,146,031	3%	2,309,801	75%	94,607	1%	431,941	44%	3,982,379	9%
Total	35,479,161	100%	3,073,841	100%	6,840,691	100%	975,896	100%	46,369,589	100%

of the Anglo children spoke a non-English language at home compared to 75 percent of the Hispanics. Overall, 9 percent of all children in the age group ranging from 5 through 17 could be classified as being NELB. The total CPS population estimate for children 5-17, 46,369,588, compares very closely with the 1980 Census count of 47,451,236. The 1980 Census count of the NELB population 5-17 was 4,529,098. (Both Census figures are reported in Macias and Spencer, 1984, pp. 69-70.) The 1980 Census NELB population is higher than that shown in Table 1, 3,826,391. The Census was collected during April 1980. The time elapsed between November 1979 and April 1980 is too short a period to explain differences of this magnitude. However, the difference in data collection technique could easily account for the different sizes of the NELB estimates. Almost all of the 1980 Census data were collected by respondent completed questionnaires. CPS data are collected by trained and experienced interviewers. Finally, the CPS population estimates are based in part on population weights based on the 1970 Census counts. (See Hart-Gonzalez, 1988 for a discussion.) The 1970 Census apparently had a differentially higher underenumeration of Hispanics (Bean and Tienda, 1987, Chapter 2). Inaccurate weights for Hispanics could lower the NELB proportion much more than the total population estimate because of the high proportion of NELB children among Hispanics. Given these considerations, the 1979 CPS is surprisingly consistent with 1980 Census counts. Since the 1979 CPS will be used primarily to calculate NELB-to-population ratios among Hispanics and other race-ethnic groups by generation, the consequences of inaccurate population weights in these data will have minimal effects on the 1988 estimates of NELB and LEP school aged children.

Figure 1a and 1b present the data from Table 1 in a graphic format. Figure 1a illustrates the percent or proportion of the children of each race-ethnic group that had non-English language backgrounds in 1979. This figure makes the high proportion of NELB Hispanic children very clear. Asians too, have a high percentage of NELB children. The proportion of NELB Anglos and Blacks is very small. The percent of NELB among the total population reflects the NELB proportions of each group and their different sizes. The number of NELB children in each race-ethnic group is illustrated in Figure 1b. The graph shows that, while the proportion of NELB Anglo children may be small numerically, it is about half the size of the Hispanic NELB population. The relatively high proportion of NELB Asians results in a relatively small population estimate of Asian NELB children because the population number is relatively small.

Table 2a contains the specific non-English languages used by the NELB youth presented in Table 1. Spanish accounts for two-thirds (66 percent) of those who did speak a foreign language. Other languages not otherwise listed in Table 2a comprise the second largest group. Asian languages probably constitute most of this category. The large proportion of these

Figure 1a - % of NELB Children 5-17 by Race-ethnicity, U.S. 1979. Source: November 1979 CPS

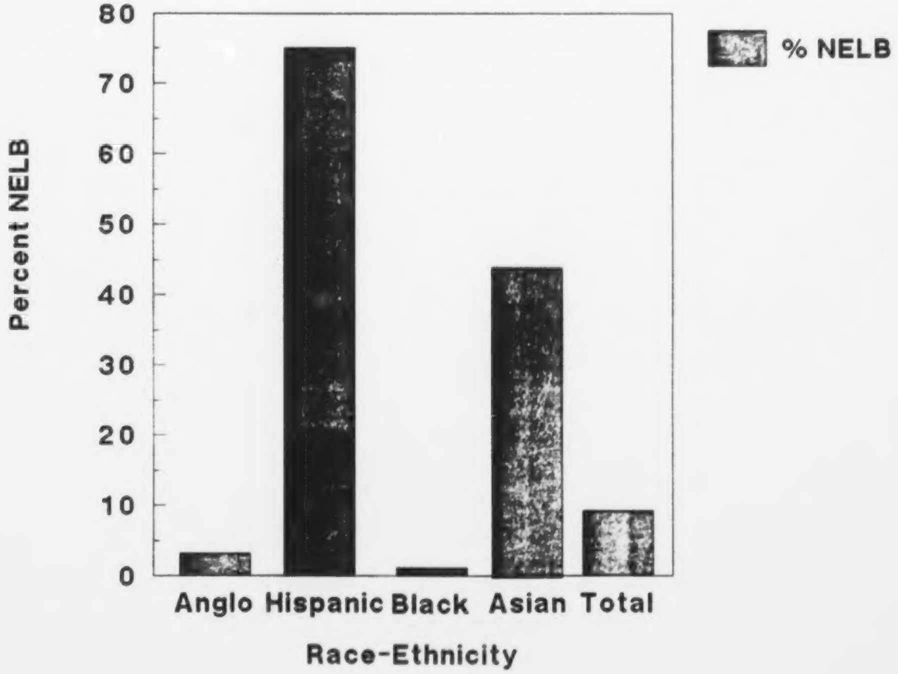

Figure 1b - # of NELB Children 5-17 by Race-ethnicity, U.S. 1979. Source: November 1979 CPS

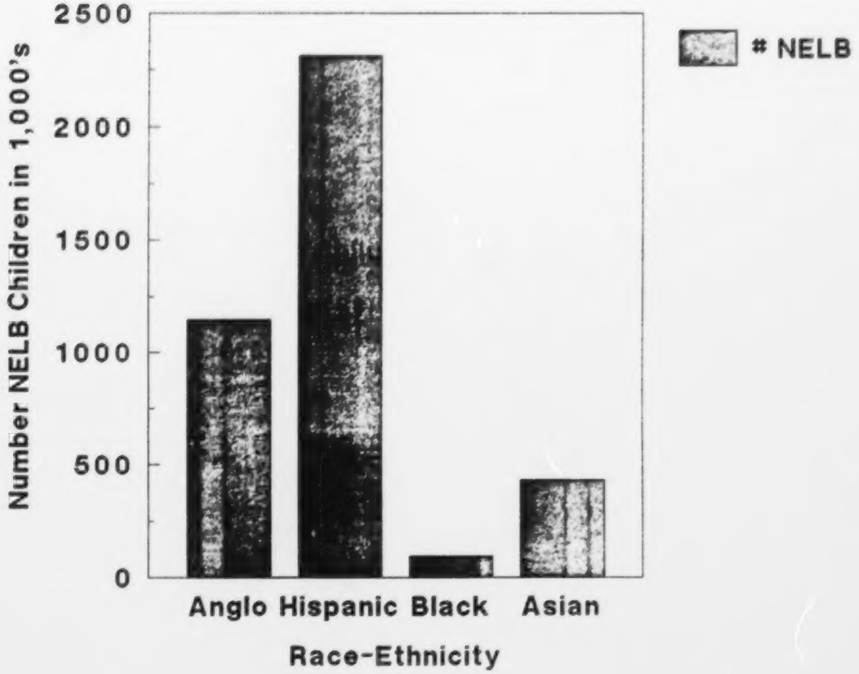

Table 2a

Languges used by children ages 5-17 who do speak a non-English
at home. (United States, 1979)
Source: Tabulations from the November 179 Current Population Survey

Language used at home.	Number	Percent
Spanish	2,632,210	66%
Other	535,970	13%
Italian	174,840	4%
German	162,026	4%
French	139,965	4%
Chinese	96,722	2%
Greek	76,539	2%
Filipino	70,126	2%
Portuguese	62,864	2%
Polish	31,117	1%
Total	3,982,379	100%

Table 2b

Estimated numbers of foreign-born children ages 5-17 who immigrated
to the U. S. between 1980-1985 by country or groups of countries
where specific languages are spoken.
Source: Waggoner, 1987, Table 4, p. 34.

	Number	Percent
Spanish-speaking countries	173,000	27%
English-speaking countries	86,000	13%
Vietnam	75,000	12%
Phillipines	43,000	7%
Korea	39,000	6%
Chinese-speaking countries	38,000	6%
Laos	32,000	5%
Countries speaking Asian-Indian languages	25,000	4%
Kampuchea	21,000	3%
Arabic-speaking countries	13,000	2%
Thailand	9,000	1%
Haiti	9,000	1%
Portuguese-speaking countries	8,000	1%
Soviet Union	8,000	1%
Iran	8,000	1%
Germany and Austria	6,000	1%
French-speaking countries	4,000	1%
Israel	4,000	1%
Italy	3,000	0.5%
Japan	2,000	0.3%
Greece	2,000	0.3%
Total	639,000	95% *

languages and the small proportion of the European languages used clearly suggest the changing nature of immigration to the United States. Table 2a showing data from 1979 indicates a high proportion of immigration from Spanish-speaking countries. Table 2b shows the origin of documented school age immigrants who came to the U.S. between 1980 and 1985. Spanish speakers are still the largest group but represent less than one third of the total rather than two-thirds. The original data source for Table 2b was Immigration and Naturalization Service reports (Waggoner, 1987), which do not, therefore, include estimates of the undocumented immigrants. Table 3 includes the distribution of each race-ethnic group by generation, the distribution of the generations within groups and the population proportion of each race-ethnic group. Almost all, 93 percent, of the Anglos and even more of the Blacks, 96 percent, are third generation. In contrast, only about 40 percent of the Asians and Hispanics are third generation. Asians had the highest proportion of first generation immigrants. The percent distribution of generation within each group is illustrated in Figure 2. The fact that Anglos and Blacks are larger groups as a whole is reflected in the fact that only about 4 percent of this age group were first generation, 8 percent were second generation and 89 percent were third. [The percentages in Table 3 may not add to 100 percent because of independent rounding.] Table 4 shows the NELB proportion for each specific race-ethnic-generational grouping. Although these are presented as decimal fractions in Table 4, I will discuss them as percentages. They are presented as decimals to make their use in subsequent computations more clear, but I will refer to them here in percentages for ease of presentation. Almost all, 96 percent, of the first generation Hispanics had NELB status. Asians also had a high, 76 percent, proportion of NELB children in the first generation. A very high proportion of second generation Hispanics, 86 percent, also reported that they were NELB. The proportion of NELB Blacks in the second generation, 26 percent, is greater than for the first generation Blacks, which is 10 percent NELB. The number and sample size of first and second generation Blacks are relatively small. Sampling variability may account for these figures. The estimates produced here, however, are consistent with the methodological consideration used by the Census Bureau for its published estimates based on CPS data. (See Appendices B and C, US Bureau of the Census, 1990.) The fact that the NELB proportion among second generation Blacks is greater than among the first generation could reflect real differences in the origins, composition and circumstances of immigration of these two groups. As such, it serves as a good illustration of the principle that these generational patterns should not be interpreted as the approximation of longitudinal change. In any case, the number of first and second generation Blacks is so small that any sampling or other possible error in NELB proportions for first and second generation Blacks will have a negligible effect on the final population estimates. In 1979, 51 percent of the third generation Hispanics reported the use of the Spanish language in the home. This proportion is very different from and much higher than that of any other third generation group.

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Table 3:

Generational distribution of children ages 5-17 by race-ethnicity
United States, 1979
Source: Tabulations from the Nov. 1979 Current Population Survey

	ANGLO		HISPANIC		BLACK		ASIAN		TOTAL	
First	644,205	2%	676,719	22%	84,682	1%	335,872	35%	1,730,758	4%
Second	1,899,406	5%	1,192,476	39%	162,703	2%	241,480	25%	3,486,324	8%
Third	32,897,590	93%	1,199,916	39%	6,585,447	96%	395,153	41%	41,099,318	89%
All Generations	35,441,201	100%	3,069,111	100%	6,832,832	100%	972,505	100%	46,318,399	100%
Race-Ethnic group as % of all children 5-17	77%		7%		15%		2%		100%	

Table 4:

Proportion of non-English background children ages 5-17
by race-ethnicity and generation (United States, 1979)
Source: Tabulation from the November 1979 Current Population Survey

	ANGLO		HISPANIC		BLACK	AS	TOTAL
GENERATION			A Mexican Origin	non-Mexican Origin			
First	0.433	0.96	0.97	0.95	0.097	0.78	0.68
Second	0.285	0.89	0.91	0.87	0.255	0.49	0.5
Third	0.009	0.51	0.58	0.29	0.006	0.15	0.03
Total	0.032	0.76	0.78	0.75	0.013	0.45	0.065

Figure 2 - Generational Distribution by Race-ethnicity, Children 5-17, U.S. 1979

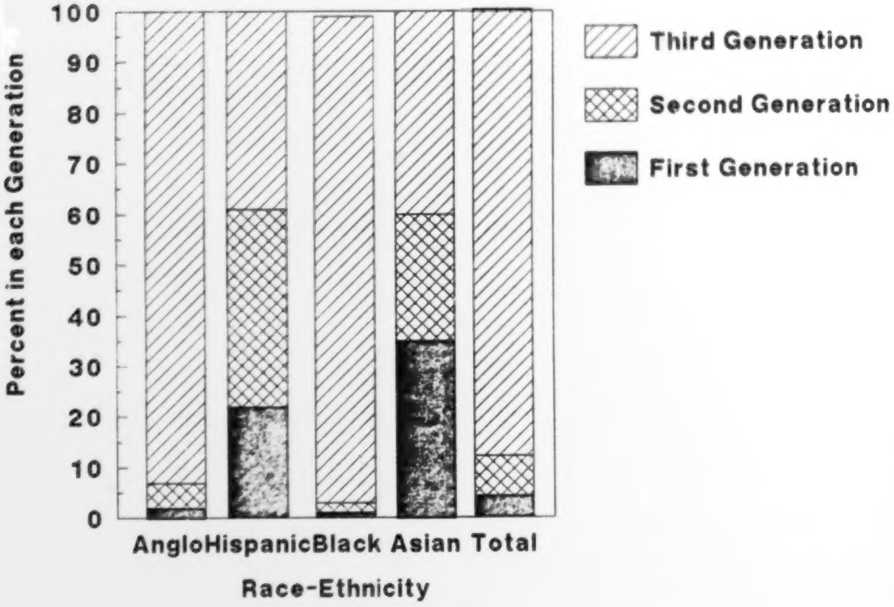


Figure 3 - Percent NELB Children by Generation and Race-ethnicity, U.S. 1979

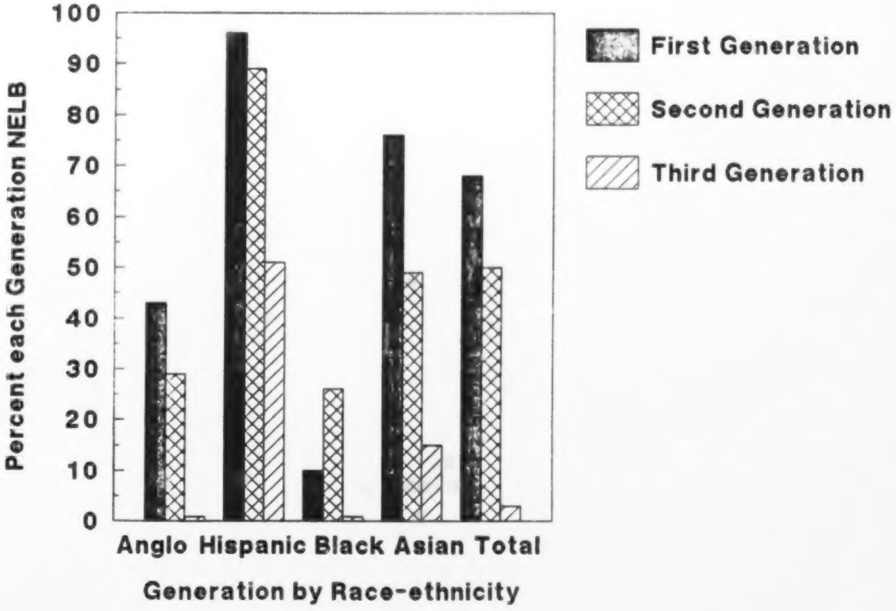


Figure 3 graphs the NELB proportion of each generation for each race ethnic group. This graph makes the high proportion of third generation Hispanic NELB children strikingly clear. The pattern between the proportion of first, second and third generation Hispanic NELB children is one of decline. However, the high proportion of NELB among the third generation and the fact that the third generation as operationally defined here is really a composite of third, fourth, fifth, etc. genealogical generations make the interpretation of the Hispanic pattern ambiguous. Both language maintenance and language shift can be seen in these data. More research and more data are needed here. It would be particularly interesting to compare the 1979 NELB proportions with more recent estimates. This comparison might help determine the presence or absence of a trend towards shift.

Table 4 also presents the NELB proportions for Mexican Origin and non-Mexican Origin Hispanics. The primary purpose for presenting this detail is that this facilitates a comparison with the NELB proportions among married Mexican Origin women in Los Angeles (Lopez, 1978). Lopez reports that 100 percent of his first generation, 53 percent of his second generation, and 34 percent of his third generation adult sample used Spanish when they were children (Lopez, 1978, Table 1, p. 270). His data suggest a more clear pattern towards language shift. However, the differences in sample, survey content and procedure make direct comparisons between his results and mine indeterminate. The data on the proportion of NELB children among non-Mexican Origin Latinos should be interpreted with caution. The specific national origin subgroups, i.e., Puerto Rican, Cuban, etc., could not be reliably presented because of sample size. The fact that the non-Mexican Latinos are thus an aggregation of these different groups apparently with different patterns of language shift and maintenance (see Laosa, 1975 and Pedraza, 1985) means that the apparent pattern may be only an artifact of the composition of this group.

Table 5a presents the race-ethnic-generational distribution of school-aged children in 1988. When compared to Table 3, the data in Table 5 illustrate how the school aged population changed during the 1980s. First, note that the total population in 1988 — 44,992,681 — is less than the 1979 total of 46,316,399. The 1979 estimate was corroborated by comparison to the 1980 Census enumerations. If the 1988 estimate is reliable, then this comparison shows that the school age population decreased between 1979 and 1988. In the absence of other sources for comparison, this will be taken as a tentative finding of this analysis. There are two other comparisons between Table 3 and Table 5a worth noting. First, the proportion and number of Hispanics and Asians increased from 1979 to 1988. The proportion of school-age children who were Hispanics increased from 7 percent to 11 percent. Asians doubled their proportion of this population. They went from 2 percent in 1979 to 4 percent

Table 5a

Generational Distribution of Children ages 5-17 by race-ethnicity, United States, 1988

Source: Tabulations from the June 1988 Current Population Survey and Table 3 above.

	ANGLO		HISPANIC		BLACK		ASIAN		TOTAL	
First	435,784	1%	1,025,862	21%	177,884	3%	618,802	36%	2,208,610	5%
Second	2,036,573	6%	2,243,004	47%	322,724	5%	626,329	36%	5,158,484	11%
Third	29,089,026	92%	1,517,507	32%	6,394,116	93%	493,655	28%	37,625,587	84%
All Generations	31,561,383	100%	4,786,372	100%	6,894,723	100	1,738,786	100%	44,992,881	100%
Race-Ethnic group as % all Children 5-17	70%		11%		15%		4%		100%	

Table 5b

Estimated Number of NELB Children ages 5-17 by Race-Ethnicity and generation (United States, 1988)

Source: Calculations based on tabulations from the November 1979 and June 1988 Current Population Surveys

	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL
First	188,694	983,601	17,255	487,614	1,657,564
Second	580,423	1,996,273	82,295	305,849	2,964,640
Third	261,801	773,928	38,365	76,023	1,150,117
All Generations	1,030,919	3,754,003	137,914	849,486	5,772,321
% Race-Ethnic Group NELB	3%	78%	2%	49%	13%

in 1988. The other notable difference between 1979 and 1988 is that the second generation Asians and Hispanics became a larger proportion of each of these two groups. Second generation Hispanics were 39 percent of all Hispanics in 1979 and 47 percent in 1988. Second generation Asians were 25 percent of all Asians in 1979 and 36 percent in 1988. This increase must in part reflect children born to the large number of Asian and Hispanic immigrants to the United States in the 1980s.

Table 5b presents the estimated number of NELB Children between the ages of 5 through 17 in 1988. These estimates are simply the product of multiplying the race-ethnic-generation specific NELB proportions in Table 4 by the population estimates in Table 5a. As the previous discussion has suggested, the number of Asian and Hispanic NELB children has increased the most. The relevant NELB population estimates from Table 1 and Table 5b are presented at the top of Table 6. The figures in Table 6 and Table 1 indicate that the number of Hispanic NELB students in 1988 — 3,754,003 — is greater than the total number of Hispanics in 1979 — 3,073,841! The number of Asian NELB students almost doubled from 431,941 in 1979 to 849,486 in 1988. Overall, the number of NELB students increased from 3,982,379 in 1979 to 5,772,321 in 1988. (The economic, social and political consequences of these demographic trends are discussed in detail in Hayes-Bautista, Schink and Chapa, 1988.)

Table 6 then presents the LEP-to-NELB ratios for Spanish and other non-English languages. Here, I used the Spanish ratio for Hispanics and the Other non-English ratio for non-Hispanic NELB children. The value of the difference between each ratio and its upper and lower 95 percent confidence interval is also presented in Table 6. Figure 4 illustrates the resulting numerical estimates of the NELB children of each race-ethnic group. This figure shows the preponderance of Latino NELB children. The number of LEP students in 1979 and 1988 was calculated simply by multiplying the NELB estimate for each year by the appropriate LEP-to-NELB ratio. The values of the difference between the estimated number of LEP students and each extreme of the 95 percent confidence interval are also presented. The estimated number of Anglo LEP students is lower in 1988 than it was in 1979. However, examination of the confidence interval values shows that this difference is not statistically significant. This procedure indicates that there are more than an additional million LEP Hispanic students in 1988 than there were in 1979. The number of Asian LEP students in 1988 is again almost double that in 1979. The total number of LEP students in 1988 —3,684,995 — is 49 percent greater than the 1979 total of 2,468,921! Again, this increase is the inevitable result of the demographic trends which are reshaping America's population. However, it is startling to see the consequences of these trends summarized in this manner. The results of the LEP population estimates for 1979 and 1988 are presented in Figure 5, where the size of the Hispanic LEP population in 1988 clearly stands out.

Table 5:

Estimated numbers of NELB and LEP Children ages 5-17
by race-ethnicity (United States, 1979 and 1988)
Source: Calculations based on tabulations from the November 1979
and June 1988 Current Population Surveys
and Macias and Spencer, 1984, p. 114

	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL
NELB Children 1979	1,146,031	2,309,801	94,607	431,941	3,982,379
% of all NELB Children	0.29	0.58	0.02	0.11	100%
NELB Children 1988	1,030,919	3,754.003	137,914	849,486	5,772,321
% of all NELB Children	0.18	0.65	0.02	0.15	100%
LEP/NELB Ratio	0.468	0.73	0.468	0.468	
95% confidence interval	(+.114)	(+.055)	(+.114)	(+.114)	
LEP Children in 1979	536,342	1,686,155	44,276	202,148	2,468,921
95% confidence interval	(+ 61,142)	(+ 92,739)	(+ 5,047)	(+ 23,045)	(+ 181,974)
LEP Children 1988	482,470	2,740,422	64,544	397,559	3,684,995
95% confidence interval	(+ 55,002)	(+ 150,723)	(+ 7,358)	(+ 45,322)	(+ 258,405)
% of all LEP Children	0.13	0.74	0.02	0.11	100%
% change in number of LEP Children 1988/1979	-0.1	0.63	0.46	0.97	0.49

Figure 4 - Number of NELB Children by Race-ethnicity, U.S. 1988. Source: Estimated from CPS data

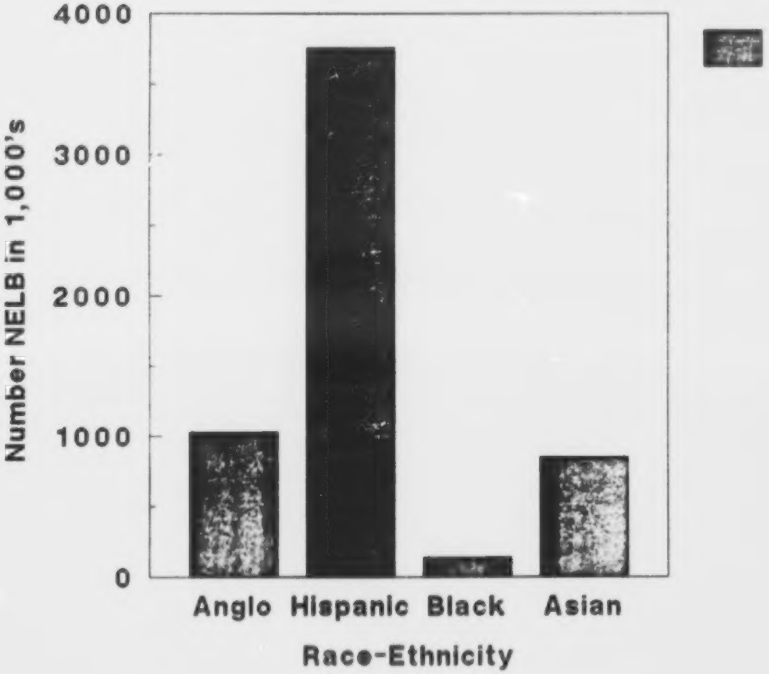
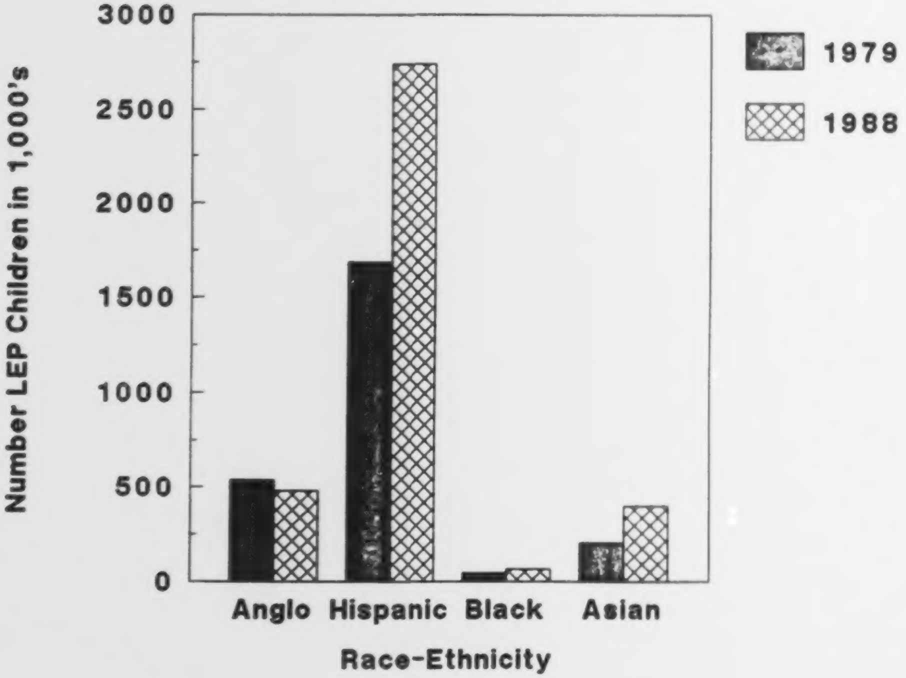


Figure 5 - Number of LEP Children by Race-ethnicity, U.S. 1979 and 1988.



One point of comparison for these final LEP estimates exists between the 1979 LEP estimates presented here and two estimates for 1978. Macias and Reynolds present and review two estimates of the LEP population between the ages of 5 through 14 for 1978. These estimates are based on the CESS and a subsequent reanalysis of the survey data — 2,409,000 and 2,631,075, respectively (p. 206). My estimate of the 1979 LEP population between the ages of 5 through 17 is 2,468,921 (Table 6). While my estimate used a LEP-to-NELB ratio derived from the same data, my estimate of the NELB population is completely independent of theirs. Since my estimate covers a larger population group because it includes children 15-17, the LEP estimate for 1979 appears to be numerically conservative but within acceptable bounds. This suggests that the 1988 estimate is also closer to a lower bound.

Another point of comparison exists between the 1979 and 1988 NELB and LEP estimates presented here and the projected figures in Oxford, et al. They projected 3,636,000 NELB children between ages 5-14 in 1980. I estimated 3,982,379 5-17 year old children in 1979. Given the difference in population groups, these figures are relatively close. They also projected 2,313,000 Spanish NELB in 1980 compared to 2,309,801 in this report. Again, these different estimates are very consistent. However, their 1990 projections for all and Spanish NELB children are 4,197,000 and 2,802,000, respectively. Both figures are substantially lower than those presented for 1988 in Table 6. The Oxford, et al.-projected LEP populations of 2,796,000 for all languages and 2,093,000 for Spanish are also substantially less than those calculated here and shown in Table 6. Their 1990 projection for Asian NELB children is 240,000 compared with my 1988 estimate of 849,486. Asian LEP students were projected to number 125,000 in 1990. This is much lower than my 1988 estimate of 397,559. Their projection assumptions understated the actual immigration and growth rates that are major factors in determining NELB and LEP population change.

One final comparison can be drawn between the estimates presented in this paper and those prepared by the United States Department of Education and published by the Governmental Accounting Office (US GAO, 1987). The Department of Education estimated that there were between 1.2 and 1.7 million LEP children in the United States in 1982. The GAO report says, "Other estimates are higher and the department's own methodology can be used to create higher estimates ranging up to 2.6 million" (p. 12). This upper estimate is close to my 1979 LEP population of 2,468,921 (Table 6). The Department of Education projected the 1986 LEP population by assuming a 7 percent increase between 1982 and 1986. Both the original estimate and the projected increase appear to greatly understate the size of the LEP population. Neither projection fully accounts for the impact of Hispanic and Asian migration during the 1980s.

Regional Differences

Both in 1979 and 1988, more than half of the limited English proficient population was found in three states — California, New York, and Texas (Table 7 and Figure 6). These estimates were produced in the same manner as the national estimates presented above. Table 7 presents a large amount of information including the number and percent of each race-ethnic group within each state's population for both years. For example, in 1979, 80 percent of all of California's LEP students were Hispanic and 10 percent were Asian. In 1988, Table 7 shows that the number of Hispanic LEP children almost doubled (96 percent) yet still comprised about the same proportion of the state's total LEP population. The number of Asian LEP students more than doubled. It increased by 145 percent between 1979 and 1988 to become 1988 of California's LEP population. The reason for the relative lack of change in the percent of Latino LEP children in spite of the large numerical increase is that the total number of LEP youths in California grew at about the same rate (94 percent). The number of all school age children in the state increased by 27 percent. In 1979, LEP youngsters were 16 percent of the population between the ages of 5 through 17; in 1988, LEP children were 24 percent of the state's school age population. In 1979, 26 percent of the nation's LEP population lived in California; in 1988, one out of three (33 percent) lived there.

The estimates presented here show that the number of school age children decreased in New York State. The number of both Latino and Asian LEP youngsters increased. Asians went from 5 percent to 10 percent of the state's LEP population. Because of the rapid growth in California and Texas, New York's proportion of all the LEP students in the country decreased from 12 percent to 10 percent. The number of Latino LEP students in Texas almost doubled. There was a 96 percent increase in the 1988 population number over the 1976 estimate. LEP children increased from 13 percent of the state total in 1979 to 17 percent. In 1978, 19 percent of all LEP students in the nation lived in Texas.

The rest of the states taken together had an LEP population of 1,416,000. This is larger than the number for California. However, these LEP children were only 4 percent of the population of these forty-seven other states. Detailed analysis of the LEP and language minority population of these states is feasible only with the sample sizes of the order of those available from the 1990 Census.

Family Income

The most striking finding of this analysis lies in the fact that the Hispanic LEP population has grown so rapidly. Immigration is a major factor

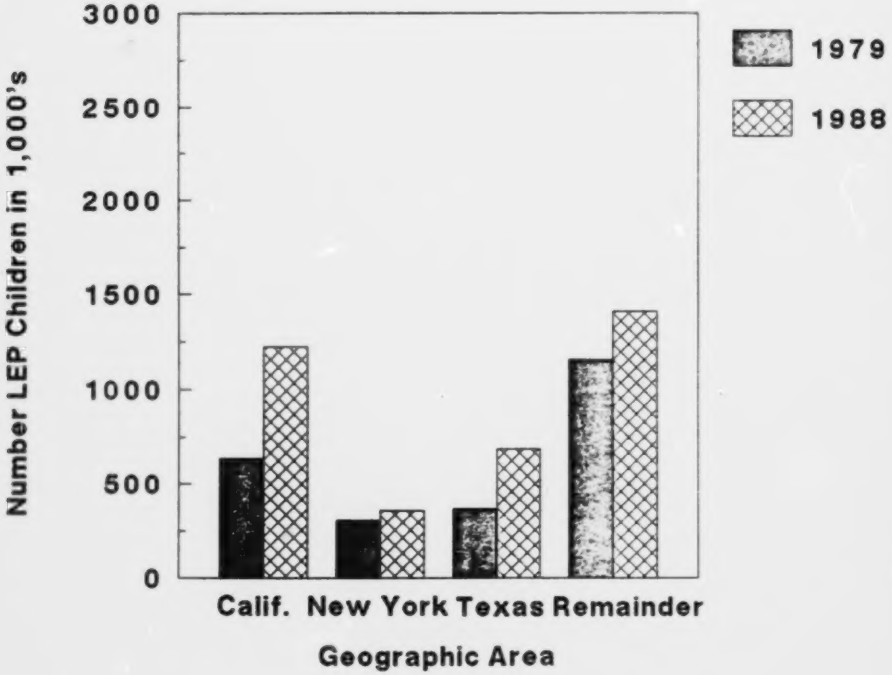
Table 7

Estimates of LEP children ages 5-17(in thousands) by race-ethnicity for California, New York, Texas, remaining states and United States, 1979 and 1988

Source: Calculations from the November 1979 and June 1988 Current Population Survey

	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL LEP	ALL STDNT	%ALL LEP CHILDREN
CALIFORNIA							
1979	62	509	2	61	634	3971	26
% LEP by race/ ethnicity	10	80	0	10	16		
1988	74	999	5	150	1227	5030	33
% LEP by race/ ethnicity	6	81	0	12	24		
% Change 1988/89	20	96	178	145	94	27	
NEW YORK							
1979	64	214	13	14	306	3560	12
% LEP by race/ ethnicity	21	70	4	5	9		
1988	10	298	13	36	357	2914	10
% LEP by race/ ethnicity	3	83	4	10	12		
% Change 1988/89	-85	39	-3	162	17	-18	
TEXAS							
1979	26	329	2	12	370	2908	15
% LEP by race/ ethnicity	7	89	1	3	13		
1988	7	656	4	18	68	3918	19
% LEP by race/ ethnicity	1	96	1	3	17		
% Change 1988/89	-74%	99	64	48	85	33	
REST OF STATES							
1979	384	633	26	115	1158	35877	47
% LEP by race/ ethnicity	33	55	2	10	3		
1988							
% LEP by race/ ethnicity	392	787	43	194	1416	33119	38
% Change 1988/89	2	24	63	69	22	-8	
UNITED STATES							
1979	536	1686	44	202	2468	46316	100
% LEP by race/ ethnicity	22	68	2	8	5		
1988	482	2740	65	398	3685	44981	100
% LEP by race/ ethnicity	13	74	2	11	8		
% Change 1988/89	-10	63	48	97	49	-3	

Figure 6 - Number of LEP Children by Area
1979 and 1988.



in this growth, but the relatively high rates of Spanish retention among Hispanics also contribute to the increase in this population. A factor that is apparently associated with Spanish retention is the lower levels of economic attainment of Hispanics. Table 8 and Figure 7 present the family incomes of families with children ages 5 through 17 for each race-ethnic-generational group. If one focuses solely on the Hispanic group, the pattern of step-like increase from first through third generations may suggest the steady progress that is associated with assimilation and progress. Many authors have looked at exactly such a pattern of attainment levels among Hispanics and have claimed these to be evidence of assimilation. (See Chapa, 1988 for a review and critique.) The claim is made on the basis of this evidence that Hispanics are following the pattern of steady progress experienced by earlier European immigrants. The high rates of Spanish retention challenge the applicability of the traditional assimilation-language shift paradigm. The family income data also challenge this conclusion. What is more telling than the increase among generations for Hispanics is the fact that all Hispanic generations have much lower income than Anglos. A major factor in explaining the large number of Hispanic LEP children lies in the complex of factors which result in lower economic attainment levels.

Conclusion and Policy Implications

The 1980s have been a time of rapid increase in the NELB and LEP populations. The analysis of data from the June 1988 Current Population Survey suggests that there were about 5.7 million NELB children and 3.7 LEP children in the United States between the ages of 5 through 17. These figures represent a huge increase in the estimates for 1979. The 1988 estimates reflect a large increase in migration to the United States during the late 1970s and 1980s. Comparison with other estimates suggests that the estimates presented here are numerically conservative. They are more likely to be closer to the lower bound of alternative conceptualization and methods than to the upper bound. Analysis of future data from the Census Bureau can be used to evaluate the estimates presented here.

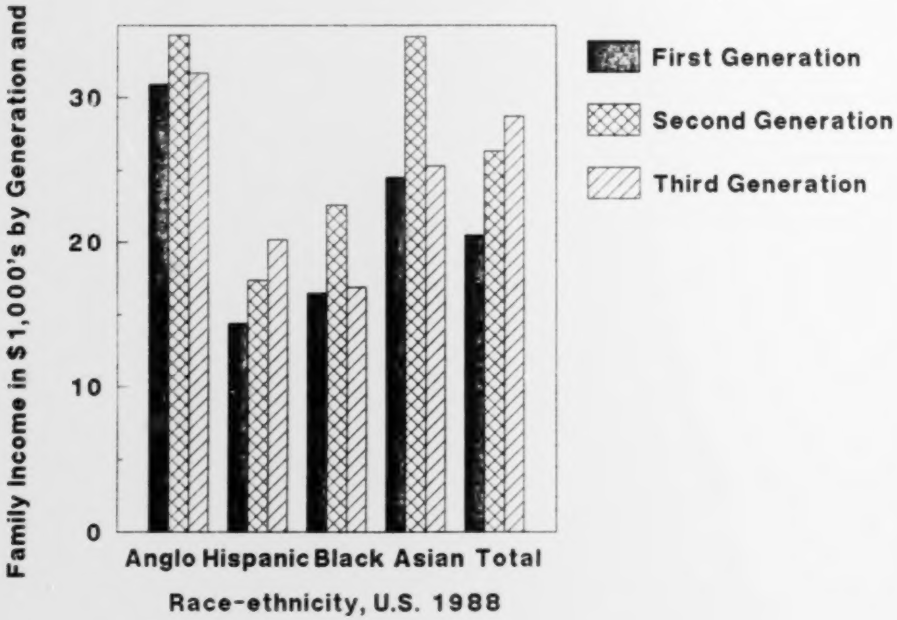
These findings have immediate policy implications. First and foremost, the rapid growth of the LEP population indicates that funds devoted to bilingual educational and the supply of bilingual teachers must also grow at a rapid rate only to maintain the status quo. Beyond these immediate and obvious implications, the growth of LEP children parallels a growth of minorities in our school age population and foreshadows the inevitable increase of minorities in our work force in the near future. The status quo is not enough. In a large and growing manner, the future economic well-being of the country depends on giving everyone, particularly minorities and especially language minorities, an educational foundation for productive labor force participation.

Table 8

Family income of families with children ages 5-17
by race-ethnicity and generation (United States, 1988)
Source: Tabulations from the June 1988 Current Population Survey

GENERATION	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL
First	$30,900	$14,400	$16,500	$24,500	$20,500
Second	$34,300	$17,400	$22,600	$34,200	$26,300
Third	$31,700	$20,200	$16,900	$25,300	$28,700
Total	$31,800	$17,700	$17,200	$28,300	$28,000

Figure 7 - Family Income by Generation and Race-ethnicity, U.S. 1988



In addition to the obvious programmatic issues of teacher supply and fundings, these demographic considerations mandate a re-evaluation of the goals, outlook, and implementation of educational policy. Rather than debate traditional patterns or take ideological stances, all must agree to orient our educational policy towards productivity and participation rather than waste and exclusion.

LEP STUDENTS AND THE INTEGRATION OF LANGUAGE AND CONTENT: KNOWLEDGE STRUCTURES AND TASKS

Bernard A. Mohan

INTRODUCTION

The integration of language and content (ILC) has been the subject of a number of recent books (Mohan, 1986; Early, Thew & Wakefield, 1986; Early & Hooper, in press; Cantoni-Harvey, 1987; Crandall, 1987; Benesch, 1988; Enright & McCloskey, 1988; Brinton, Snow & Wesche, 1989) and it has been discussed or reviewed in an increasing number of articles (e.g., Mohan, 1979; Shih, 1986; Crandall & Tucker, 1989; Snow, et al. 1989; Wong-Fillmore, 1986, 1989; Spanos, 1990; Christian, et al., in press). While much of this literature discusses American experience, there is a growing amount which discusses work in other countries, such as Australia (Cleland & Evans 1984), Britain (Bourne, 1989; Reid, 1989) and Canada (Ashworth, 1988).

This paper will review research relating to LEP students and the integration of language and content. Rather than being a comprehensive review, it will be a systematic review. In my opinion, the integration of language and content should relate language learning, content learning and the development of thinking, and should aim to find systematic connections among them. This review will, therefore, focus on two main themes that appear in the research literature and that offer systematic connections: knowledge structures and student tasks. Knowledge structures are patterns of organization that are important in both language and content knowledge, a familiar example being the temporal ordering of actions and events. Student tasks are the units of student work in both language classrooms and content classrooms, the clearest example being the student assignment that is evaluated or graded.

The integration of language and content can be broadly defined as mutual support and cooperation between language teachers and content teachers for the educational benefit of LEP students. Language development and content development are not regarded in isolation from each other and there is a focus on the intersection of language, content and thinking objectives.

ILC is clearly different from language teaching "in isolation," which ignores content development. ILC is also different from those forms of content-based language teaching which use content merely as a means for language development, ignoring content and thinking aims. Since we must draw to a large extent on the literature of language teaching, it is necessary to make a very clear distinction between ILC and a perspective which considers second language learning only. Because it sees language as the major medium of learning, ILC aims beyond second language learning to learning language for academic purposes and beyond language learning to content learning. "Language" includes not only the rules of sentence grammar but also the organization of discourse; "content" includes not only content in the sense of the message of a sentence but also content as it is seen by the content teacher, content as the organization of information within the perspective of a discipline.

Assumptions

(1) Since education systems aim to deliver education services to all students and since language is the major medium of learning, an important education aim is to support language as a medium of learning to enable students to be academically successful. This applies to native speakers of English (L1 speakers) as well as LEP students. For example, Langer and Applebee (1987) responded to NAEP results that indicated L1 student weaknesses in writing and in higher level thinking skills and studied the role of writing in thinking and learning in secondary school content classrooms. They identified a need for clear conceptualizations of the components of effective discourse in particular disciplines. Approaches designed to attain such goals have the potential to be valuable to all students, whether first or second language learners.

(2) For ESL programs in schools in the United States the main goal is to enable students to be academically successful in subject-area classrooms where English is a medium of learning. But few programs use approaches specifically designed to achieve this aim (Chamot & O'Malley 1987).

(3) ESL programs should go beyond the development of conversational skills to develop the cognitive-academic language proficiency required for academic success (Cummins, 1984; Saville-Troike, 1984). The development of sentence-level language and oral conversational skills is not sufficient. Students must be aided to develop those language competencies, including literacy competencies, which are also goals of programs for native speakers of English.

(4) LEP students' learning should build on the educational, cultural and personal experiences they bring to school. In language learning, students' previous experiences with oral and written language should be a basis for their second language development and their literacy development (Heath, 1983; Hudelson, 1986; Edelsky, 1986; Cummins & Swain, 1986; Enright & McCloskey, 1988; Moll & Diaz, 1987)

(5) Verbal language is not the only mode of language as a medium of learning. Younger learners often express themselves through multiple media, using both drawing and text (Harste, Woodward & Burke, 1984; Dyson, 1986). In the later years, graphic representations and the connections across different modes of meaning should be exploited for the benefit of LEP students rather than ignored (Early, 1989).

(6) Under favorable circumstances, it generally takes between four and seven years for LEP students to reach national norms on standardized tests in reading, social studies and science, an indication of the time taken to master a second language for schooling, but we cannot delay academic instruction until students have mastered basic L2 skills (Collier, 1987, 1989). We cannot place LEP students' academic development on hold during this period, and language programs alone cannot provide the necessary support to learners. Subject matter teachers and content classrooms must play a large and essential role. We must rely on the cooperation of content teachers from different specialisations at all grade levels.

(7) There is need for approaches to teaching LEP students which incorporate content goals and integrate language and content. In one survey of content teachers, only 12% modified their instruction for LEP students, and over 80% were unwilling to do so and believed that English language proficiency should be a prerequisite for enrollment in content area classes (Gunderson, 1985). A partial explanation may be Langer's and Applebee's (1987) finding that content teachers were reluctant to devote time to writing as a means of learning if such approaches did not promote learning of the teacher's own subject but were perceived as a means of fostering the work of the English teacher. Another partial explanation may be Penfield's (1987) finding from a survey of content teachers that the large majority of the teachers expressed a need for more training on how to teach content to LEP students but had little knowledge of how to integrate content and L2 development.

(8) The integration of language, subject area knowledge, and thinking skills requires careful systematic planning and monitoring. It should not be left to chance. It is often assumed that a content course taught to a class of second language learners is an excellent environment for second language learning. But, in a study of French immersion programs, where English speaking students were learning content through the medium of French, Swain (1988) challenged this myth and showed that "not all good content teaching is necessarily good language teaching." For example, typical teacher-dominated content classrooms merely required students to give brief oral answers to questions or to fill in blanks and provided little opportunity for the sustained student talk needed to develop complex language use. In another striking example, a history lesson was taught largely in the future tense, not the past, missing the opportunity to help students develop appropriate form-meaning

relationships in language. As Swain points out, such content teaching needs to respond to the students' needs as language learners and to incorporate the design features of good language lessons; it needs to guide students' progressive use of the full functional range of language and to support their understanding of how language form is related to meaning in subject-area material.

(9) "Tasks" and "Knowledge structures" provide two research bases for systematic planning and monitoring of ILC. As we shall see, the research on student tasks provides insights into the quantity and quality of student language use, among other things, and the research on knowledge structures provides insights into how language form is related to meaning, among other things.

Theoretical Perspectives

It is helpful to consider ILC with respect to three theoretical perspectives: Krashen's Monitor model, Cummins' Language Proficiency model, and the Language Socialization perspective.

Krashen's Monitor Model

Krashen's monitor model has a central principle: the input hypothesis. The claim is that human beings acquire language in one way only, by understanding messages or by comprehensible input (Krashen, 1985). Krashen's work has been widely discussed and has played an important role in encouraging ESL teachers to move from a grammar-based approach to a more communication-oriented approach. It has also been influential in encouraging content teachers to make efforts to be more comprehensible by adjusting their speech and by providing contextual support. Its stress on comprehension has been beneficial.

This model has been critizised for appearing to "provide all the answers" but in fact being untestable and thus doing a disservice by disguising research problems (McLaughlin, 1987). The same criticism applies to the way this model treats ILC, for the model actually has nothing to say about integration.

Krashen's model is a theory of second language acquisition, not a theory of knowledge acquisition. It speaks to the goals of the language class not to the goals of the content class. It distinguishes between language classes that provide more comprehensible input and those that provide less. As far as the model is concerned, content classes are merely possible sources of comprehensible input, hardly a perspective that is likely to appeal to the content teacher. In Krashen's model, "content" simply means "message," and "comprehensible input" is language with an understandable message or content. "Content" does not have the specific meaning that it has for a content area teacher, and integration is a non-issue. The danger with this model is that it appears to address the issue of ILC but in fact merely disguises the problems.

Cummins' Language Proficiency Model

In Cummins' model, language proficiency, first or second, is considered to be related to two continua. Communicative tasks may be either more context-embedded or more context-reduced; and communicative tasks may be either more cognitively undemanding or more cognitively demanding. Bilingual proficiency means that the development of proficiency in one language can contribute to the development of the other; there is a common underlying proficiency. This interdependence of development is most characteristic of context-reduced, cognitively demanding language proficiency, of which literacy skills are a central case (see Cummins, et al., 1989; Cummins, 1990), although oral discourse can be context-reduced and cognitively demanding. Sociocultural factors affecting attitudes towards languages and cultures are important for explaining differences between bilingual education for majority and minority language groups.

With respect to ILC, this model has played a very important role by drawing attention to the differences between basic conversational language and academic language proficiency which takes years to acquire. It underlines the importance of recognizing and respecting the resources of both the bilingual's languages and the opportunities for positive transfer, especially in literacy. Because it considers both first and second language development, it implies that there is a need to go beyond a second language acquisition perspective and to incorporate first language development research.

Cummins' view of language proficiency, the central element of the model, has been criticized (Rivera,1984; Edelsky, 1986; Martin-Jones & Romaine, 1986). Critics have argued that tests in school do not truly measure language competence so that Cummins is really referring to test-wiseness, and that literacy skills are specific to particular cultures and communities so that the notion of a common underlying proficiency is problematic. Also problematic is the notion of context-dependence (Mohan & Helmer, 1988). The debate indicates that there is little clarity about the concept of academic language proficiency, which is a serious matter not only for ILC but for education generally. Important questions are, therefore: Can we identify academic language proficiency? Can we identify cognitive/linguistic elements which are cross cultural? Can we clarify the concepts of context and context dependence?

Language Socialization Perspective

The language socialization perspective is not a model devised by one individual but is rather a set of related ideas shared to some degree among a

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diverse group of scholars without any necessary uniformity. While Krashen's and Cummins' models derive from a natural science tradition in social science, which looks for causal explanation, this perspective derives from the very different "interpretive" approach, which explores how people assign meaning to their social world (Braybrooke, 1987). Language socialization means both socialization through language and socialization to use language. For example, the child learning language is also learning about the world, learning through language. The notion of language socialization draws on sociological, anthropological and psychological approaches to the study of social and linguistic competence within a social group. If language acquisition aims at the study of linguistic competence, language socialization aims at the understanding of how persons become competent members of social groups and what role language plays in this process (see Schieffelin & Ochs, 1986a, 1986b). ILC with LEP students is a special case of language socialization since we need to study how LEP students learn language and subject matter at the same time.

We will pick out two themes from the language socialization perspective and then apply them to ILC with LEP students in the two major sections of this paper as a way of organizing two coherent strands in the research literature. The two themes are "Knowledge structures" (or text structures or genres) and "tasks" (or activities or social situations or contexts).

Both of these themes can be seen in the seminal work of the anthropologist Malinowski. With respect to knowledge structures/text structures/genres, his study of the language of Trobriand gardening (Malinowski, 1935) examines the Trobriand classification of plants and its vocabulary using textual evidence, a theme elaborated in later anthropological work in ethnographic semantics with an expanded range of knowledge structures, in comparable work on knowledge structures in cognitive psychology (Schank & Abelson, 1977), in work on genre in systemic functional linguistics (Martin 1985), and, an obvious inheritance, in work on Language for Specific Purposes (Swales, 1985). With respect to tasks/activities/social situations/ contexts, the same work of Malinowski introduces the notions of "context of situation" and "context of culture," notions elaborated in functional systemic linguistics (Halliday, 1978; Halliday & Hasan, 1985). Similar views of discourse as structured by speaker-hearer conceptions of the social activity or social event taking place, and of the social activity as constructed by the negotiation of situated meaning, appear in the Vygotskyan school of psychology which emphasizes the role of social activities in the development of the mind, and in the work of Bruner on novice-expert learning interactions in highly framed situations (Rogoff & Wertsch, 1984; Bruner, 1983).

KNOWLEDGE STRUCTURES AND ILC

This section will discuss knowledge structures (KSs). It will begin by outlining a set of fairly abstract and general KSs and present evidence that they are cross cultural. Next we will discuss how they appear in school knowledge. Then we will consider the importance of graphic representations of KSs. This will be followed by exploring the way KSs underlie expository text, both in reading and writing. Finally we will tie the strands together through the use of graphics to aid reading and writing in the content areas.

How do learners organize school knowledge so as to understand, remember and apply new information? An explanation from cognitive psychology is that knowledge is schematized, or organized in chunks or packages, and that schemas or knowledge structures facilitate comprehension, memory and application (Abelson & Black, 1986). Abelson and Black point out that knowledge structures are not fixed and static but are flexible and dynamic.

Because the notion of schema is so general and bland, it is necessary to focus on certain classes of knowledge structure. Figure 1 outlines a set of knowledge structures discussed in Mohan (1986). There are three pairs of related structures: a description of a particular object or person often involves a classification or set of general concepts; a particular temporal sequence of states, events or actions often involves general principles (social rules or cause-effect relations) which relate one state to another; a particular choice or decision often involves general values. These knowledge structures are broad and general patterns of the organization of information, at a fairly high level of abstraction. A typical situation, activity or task includes them but is not limited to them. They are meant as heuristic guidelines for the discussion which follows.

Knowledge structures are not predetermined and inevitable patterns which are inherent in experience, nor are they final and unchallengeable orderings through which others can control the experience we have. Rather, knowledge structures are ways of organizing experience through which we, as human beings, give a coherent structure to experience. It is now widely recognized, for example, that personal narrative is not simply a reflection of the temporal flow of past events but is a way in which we ourselves create coherent meanings from our daily lives. This process of story creation is just one example of a more general process of giving shape, structure and coherence to experience through "experiential gestalts" (Lakoff & Johnson, 1980: 117). Awareness of knowledge structures can be liberating. As Lakoff & Johnson persuasively argue, awareness of the patterning of experience is helpful in realizing that the way we have been brought up to see the world is not the only way and in appreciating the different perspectives of other cultures.

Are these knowledge structures cross cultural or are they limited to a particular cultural group? This question is addressed by cognitive anthropology (Spradley, 1980; Casson, 1981; Werner & Schoepfle, 1987), particularly by ethnographic semantics, the subfield of ethnography devoted to the analysis of knowledge systems of cultural domains. In a major work of systematization of the craft of ethnography, Werner and Schoepfle (1987) summarize a large body of research concerned with uncovering and analyzing the cognitive structures of ethnographic data gained from a wide range of cultures, individuals and cultural domains. Figure 2 shows all of their main types of KSs, which they define in terms of semantic relations. Their definitions are comparable to Mohan (1986), as the comparison of Figure 1 and Figure 2 indicates. Thus the KSs of Figures 1 and 2 are likely to be appropriate to learners from a range of different cultural backgrounds.

Are these KSs relevant to conceptions of knowledge in school? Statements of school curricula objectives for different content areas aim to describe central features of desired knowledge. Usually they include lists of "thinking skills." Figure 3 arranges selected core "thinking skills" from social studies and science curricula under KS categories, following an analysis by Early, Thew and Wakefield (1986). The match to KSs is obvious, and similar analyses can be made of many other content curricula. One implication is that it is possible to link cognitive objectives across grades and subject areas to a much greater degree than is done at present. Given the present interest in the promotion of communication and thinking skills for language minority and language majority students (Resnick & Klopfer, 1989), this should be an important priority.

Graphic Representation of KSs

Why are central KSs and cognitive processes ("core thinking skills") not more widely identified and developed across the curriculum? This is particularly puzzling because there are a number of reasons why one might expect KSs to be more prominent.

For example, KSs are taught explicitly in various parts of the curriculum. Classification is often taught as part of the subject matter of biology; cause-effect relations are discussed through science experiments; decision making appears in social studies, business studies and home economics. Again, KSs appear frequently throughout the curriculum, showing up as patterns of exposition in textbooks (see the discussion of reading below). But what is particularly notable is the fact that KSs are not difficult to recognize and communicate about. Each of the KSs identified so far has well-known graphic conventions for representing it (see Figure 4), conventions which are relied upon in school textbooks. Thus classes or sets may be shown by Venn diagrams and trees; scientific principles relating two or more variables may be shown by

CLASSIFICATION OR CONCEPTS	PRINCIPLES	EVALUATION OR VALUE
DESCRIPTION	TEMPORAL SEQUENCE	CHOICE OR DECISION MAKING

Figure 1
A Framework of Knowledge Structures

CLASSIFICATION OR CONCEPTS	PRINCIPLES	EVALUATION OR VALUE
taxonomy (classification) part-whole relation	causal chains	values and evaluation
	plans (sequence in time)	decisions
DESCRIPTION	TEMPORAL SEQUENCE	CHOICE OR DECISION MAKING

Figure 2
Main types of cognitive structure in ethnographic semantic analysis (Werner & Schoepfle 1987)

CLASSIFICATION	PRINCIPLES	EVALUATION
classifying	explaining	evaluating
categorizing	predicting	judging
defining	interpreting data and drawing conclusions	criticizing
	developing generalizations (cause, effects, rules, means-ends, reasons)	justifying preference and personal opinions
	relating causes and effects	forming personal opinions
	experimenting	
observing	plan procedures	recommending
describing	carry out procedures	making decisions
naming	arrange events in sequence	recognize issues, problems
comparing	understand time and chronology	identify alternate solutions
contrasting	note changes over time	problem-solving
DESCRIPTION	SEQUENCE	CHOICE

Figure 3
Some core thinking skills across curricula
[Social Studies Grades 1-7, 8-4; Science Grades 1-7, 8-10]
(Early, Thew & Wakefield 1986)

CLASSIFICATION OR CONCEPTS	PRINCIPLES	EVALUATION OR VALUE
tree venn diagram table headings	graph of function/ line graph crossbreak table ordered pair table	rank ordering rating scale value labelling
pictures, slides diagrams maps	action strip time line flowchart	flowchart decision decision tree decision table
DESCRIPTION	TEMPORAL SEQUENCE	CHOICE OR DECISION MAKING

Figure 4
Graphic conventions for
representing knowledge structures

a line graph or a crossbreak table; and decisions may be shown by a decision-tree. Furthermore, there is a known, explicit and well-defined logical and mathematical basis for these KSs and their graphic representation: sets and relations for classes and principles (see Kerlinger, 1973); decision theory for decisions and values (see Giere, 1979); and graph theory for graphic representation (Ore, 1963). Nor is this basis remote from schools; sets, relations and ordering underlie the math curriculum from the early years.

There is considerable evidence that KS graphic representations and other similar graphics help comprehension and subject matter achievement. (It must, however, be pointed out that while all of these KSs have graphic representations, not all graphics represent these KSs.) For instance, Winn (1980) found that block-word diagrams were more effective than text alone for the comprehension of high school biology. Mosenthal (1984) used a mapping graphic strategy to increase comprehension by sixth and eighth grade social studies and physical science students. Levin et al. (1987), in a meta-analysis of the effects of pictures on learning prose content, concluded that all types of text-relevant picture facilitate students' prose learning to some degree.

Yet advocates of graphic instructional techniques express concern that graphics have not been given sufficient attention in schools.

> "...Textbooks frequently contain a variety of graphic aids, and students must develop skills for acquiring information from maps, charts, tables pictures and diagrams...The need for instructional activities which help students to develop these skills is clear. Graphic aids have been identified as an important variable in reading comprehension ... yet many students ignore or only superficially attend to them" (Reinking 1986:146).

A reason for this may be that teachers themselves do not sufficiently value graphics as a medium of intellectual content by comparison with the printed word. In one of the few studies of how graphics are actually used in the classroom, Evans, et al. (1987) concluded that teachers made very few direct references to graphics and provided little guidance in how to use graphics for educational purposes.

How are graphics actually used in classrooms of LEP students to represent KSs and increase understanding of them? Tang (1989) is, to my knowledge, the only research study which has addressed this question. Tang conducted an ethnographic study of two classrooms of seventh grade LEP students across a variety of subject areas. She found that students were exposed to a considerable amount of graphics and, indeed, one chapter of the teacher's guide to one of their socials textbooks specified student assignments which made use of graphics of all six KSs. Yet without teacher guidance students could not successfully extract information from graphics or use graphics to represent knowledge, nor did they recognize graphics as an alternative way of communicating knowledge. They regarded graphics as decoration, as "art," their general attitude towards graphic representation of KSs was negative, and they did not find graphics helpful for comprehension and recall. With explicit teacher guidance, however, students could use graphics to organize information, were more aware of graphics as a way of communicating knowledge, and were more positive towards graphic representation of knowledge structures.

There is, thus, a need for a systematic approach across the curriculum in which teachers help all students, but particularly LEP students, to use graphics as a way of communicating knowledge and KSs.

Expository Discourse

Reading

In many content classes reading a textbook is the main means of studying the content to be learned. When a student has difficulty reading a textbook, what is the role of language and what is the role of content area knowledge?

Similar questions arise with student writing in content areas and with student understanding of and participation in classroom discussion and lectures. In all of these cases, student performance with the textbook, the written essay and the discussion is affected by a language factor and a content factor. How do the two factors relate to each other? Recent theoretical advances in reading research have introduced a cognitive interactive perspective which sees reading as a complex interaction between reader and text, a view which has been fruitfully applied to reading in the second language (Carrell, Devine & Eskey, 1988). Investigation of the cognitive processes of reading has revealed the importance and variety of the readers' prior knowledge (including content knowledge) and the significance of how the readers' prior knowledge interacts with discourse properties of the text. As Carrell has pointed out in a valuable review (Carrell, 1988), these factors have been significant in recent second language reading research into comprehensibility of reading text. This research has investigated the interaction of the reader's content and formal schemata (knowledge structures) with related characteristics of text.

Reading researchers recognize two types of schema or background knowledge which a reader brings to the text: a content schema is knowledge relative to the content domain of the text; a formal schema is knowledge relative to the formal organizational structures of different types of text (Carrell, 1987: 461). It is convenient to use the term "knowledge structure" to refer only to formal schema and to foreshadow a later distinction between knowledge structure and text structure.

The facilitating role of content schemata in comprehension serves to indicate the contribution of the content teacher to the LEP students' developing understanding of information in school. The importance of formal schemata indicates an area of common ground for joint action by content teachers and language teachers.

Studies have shown that content schema, the reader's knowledge of the content domain of the text, is significantly related to reading comprehension of that text. With respect to culture-specific content knowledge, an early study by Steffensen, Joag-dev, and Anderson (1979) used rhetorically similar descriptions of an Indian wedding and an American wedding and found that culturally familiar material was read faster and recalled more easily. Of particular interest is work on the effects of content schema in different disciplines or subject areas that has been carried out in the area of English for Specific Purposes. Here it has been shown that text from a familiar subject area is easier to read and understand than linguistically similar material from a less familiar one (Alderson and Urquhart, 1988). These researchers view subject areas like physics as subcultures into which learners are enculturated, and there is evidence that the conventions and intentions of communication vary from one discipline to another.

The interaction of the reader's formal schemata and text structures has been shown to influence comprehensibility for second language readers (Carrell, 1984; Urquhart, 1984). Comprehension can be improved by training learners to recognize text structure. In a study of first language reading, Bartlett (1978) taught ninth grade students to identify top level structure in text, using Meyer's text structure types, and their memory for text information significantly improved. Carrell (1985) similarly showed that explicit training on top level text structures can facilitate intermediate ESL college students' reading comprehension of expository text. These findings suggest that reading comprehension can be significantly increased by teaching LEP students to recognize expository text structure. Meyer's text structure types, as in Meyer (1985), are shown in Fig. 5. The relation to the KSs of Fig. 1 is quite close. The category of "collection" is repeated because Meyer includes both classification and time sequence relations within it.

Further research suggests additional reasons why it might be productive to improve LEP students' recognition of text structure. One reason concerns research on reading strategies and metacognition: research on reading strategies in the L2 has shown the importance of the strategy of recognizing text structure (Block, 1986) and research on metacognition has shown that readers' metacognitive awareness of strategies is related to reading proficiency. Strategy

CLASSIFICATION	PRINCIPLES	EVALUATION
collection	causation	
comparison		
description	collection (sequence)	response
DESCRIPTION	SEQUENCE	CHOICE

Figure 5
Text Structures
(Meyer 1985)

research suggests that less competent learners may improve their skills through training in strategies used by more successful learners. Carrell, Pharis and Liberto (1989) found that metacognitive strategy training was effective in enhancing second language reading with college students. A main stratagem used was semantic mapping, where text information is displayed in graphic form. A second reason concerns research on the effect of awareness of text structure on reading recall. Research in English as a first language has shown that awareness of different text structures improves reading comprehension and recall, especially in expository writing (Richgels, et al., 1987). Carrell (1990) investigated the relationships between awareness and recall performance on different types of expository texts with college ESL students.

There is the potential for a more elegant integration of these elements (metacognition and reading strategies, awareness of text structure) if the link between text structure and graphic representation can be made clearer.

Writing

There are relevant parallels between research on writing in a first or second language and the research on reading reviewed above. One parallel concerns the role of content schema, or knowledge of the content domain being written about. In L1, for example, McCutchen (1986) found that greater knowledge of the content domain of the writing topic was associated with greater cohesion in writing. Similarly, in L2 studies, Selinker and Lakshmanan (1990) found that greater knowledge of the topic domain positively affected interlanguage performance.

A second, and more important, parallel concerns formal schemata or KSs. Text structure has an important role to play in writing research just as it does in reading research, and there is a relation between KSs and text structures. The most detailed and linguistically sophisticated research on text structures of expository writing is being conducted in Australia, within a systemic functional linguistic perspective. "Genre," or distinctive text structure, is a leading idea (see Hasan, 1984; Martin, 1985; Ventola, 1987). Genres are oral or written interactions that people engage in, such as a service encounter in a shop or a written account of a personal experience, and a key feature of a genre is that it is staged, the language user going through a series of stages in order to achieve the purposes of the interaction. Research on a genre based approach to writing has shown that in the early school years, teachers favor narrative genres, and factual or expository genres are neglected; that teachers expect students to write certain genres, but that teachers have little conscious awareness of the genres they require and thus find it difficult to offer constructive assistance to students who are having problems (Hammond, 1987). For current work which applies genre analysis to language learning in Australian schools, see Houston (1989)

CLASSIFICATION	PRINCIPLES	EVALUATION
report	explanation	judgement
description	recount	
DESCRIPTION	SEQUENCE	CHOICE

Figure 6
Genres
(Martin 1985; Rothery 1989)

and Knapp and Callaghan (1989). Houston (1989) is specifically aimed at LEP students.

It is, therefore, a high priority to identify and define the genres of writing with explicit descriptions. Figure 6 shows the main genres identified by Martin (1985) and Christie and Rothery (1989) and indicates the close relation with the knowledge structures of Figure 1. Some more detail about Figure 6 may be helpful. A "recount" is a narrative and reflects time sequence, and a report states what an entire class of things is like, i.e. reflects classification. A judgment is an opinion or judgment about something general and is supported by evidence. The genre analysis of Martin, Christie and Rothery is a precise analysis which links the text structures of genres to their detailed realization in discourse and language systems and is thus far superior to Meyer's looser analysis. This precise analysis illuminates student language as it functions in writing in a way which is valuable for both first and second language writers. Using this analysis, teachers and students can work on the grammar and lexis of writing functionally rather than in isolation from language use.

Will students be able to transfer knowledge of genres between their L1 and their L2? Edelsky (1986) found that young bilingual writers applied what they had learned about writing in Spanish to writing in English in a range of ways relevant to beginning writing. On the other hand, researchers in contrastive rhetoric (Connor & Kaplan, 1987) argue that differences between L1 rhetoric and L2 rhetoric result in interference, which leads to poor performance in L2 writing. It is in relation to this question that differences between KSs and genres become crucial. A KS is considered to be cross cultural (see Werner & Schoepfle above), but a genre description is a detailed analysis of a discourse type within a particular language. To illustrate the difference: in Ancient Egypt the human body was described from head to toe (Rescher, 1964:95), but in Navaho it is strictly prescribed that the body be described from toe to head (Werner & Schoepfle, 1987, vol. 2:85). Both descriptions share the same part-whole KS, but they differ as genres in text sequence.

Graphics and the Integration of Language and Content

To recapitulate, earlier sections have shown how KSs underlie subject area knowledge and thinking skills, how KSs underlie expository discourse both in reading and writing, and how KSs can be represented by graphics. This section will discuss research which provides evidence that teachers and learners can use graphics as links between language and content. The strategy is to use graphics which represent underlying KSs. In this way KS graphics can become a visible language, a common currency and a bridge between the language teacher and the content teacher, and a visible basis for integration and cooperation. We will discuss reading research first because there is a substantial research literature on the use of graphics in reading.

The reading research literature on graphics has discussed a diversity of graphic forms: graphic organizers, flowcharting, networking and semantic mapping, to name a few. Early uses of graphics tended present key vocabulary (Estes, Mills & Barron, 1969). Later uses placed more emphasis on graphics as a parallel representation of information available in written form in a text. A major advance was made when detailed theories of text structure entered the picture and claims about the graphics-text relation became specific and testable. Thus, recent work by Richgels et al. (1987) used four different graphic organizers to represent four of Meyer's text structures. The effect of using a graphic representation strategy to increase students' ability to recognize text structure has been examined by Alverman and Boothby (1986). Working with fourth grade speakers of English, they found that the experimental group comprehended and recalled significantly more information from content materials.

Turning to LEP students, Tang (1989) researched the effect of a graphic representation on the comprehension of social studies material with seventh grade LEP students at an intermediate level of English. She used a knowledge structure representation, a classification tree graph of a whole-part type, to represent the content of texts describing whole-part structures of civil government taken from the prescribed textbook. She investigated the effect both of teacher-made graphs and student-made graphs. Both strategies facilitated recall of the content. This study was a follow-up to the ethnographic study mentioned above, and she found that teaching these students how to construct graphs changed their attitude towards graphics to a positive one.

By contrast with the situation in reading research, there is less research on the use of graphics in writing. Early (in press) studied the use of knowledge structure graphics by young LEP student writers. Early conducted a qualitative case study of a class of grade four/five students where the teacher had designed a combined science and socials unit on the theme of "Fish" and organized the content around KSs and corresponding graphics. Graphics used included a diagram of the parts of a fish, a classification tree which located fish within the animal kingdom, and a chart that organized information about fish as pets. The graphics served to focus group discussion and to support sustained writing of a high quality across a range of genres. Mohan (1989) compared a junior high LEP student who was an inexperienced writer with a graduate L1 student who was an experienced writer. Both wrote about the same graphic containing social studies information. Both expressed much the same ideas and knowledge structure, but the LEP student was much less able to create quality discourse from the material. The graphic approach revealed the LEP student's difficulties very clearly: a weaker control of the features of the genre and of discourse "texture" (theme, information focus and cohesion).

Summary

We have reviewed evidence that KSs are cross cultural, that they underlie subject-area knowledge and thinking skills, that they can be represented by graphics, that they underlie expository reading and writing, being realized in discourse and grammar in a variety of ways, and that student awareness of them improves retention of subject matter. For teachers and learners, it is easy to begin to work with KSs. Starting with familiar graphics such as timelines and classifications, they can explore the ways graphics can clarify subject matter and the ways they are expressed in discourse. This can lead to more complex understanding and use. For researchers interested in extending Krashen's thoughts about comprehensible input, the neglected role of content can be addressed, and the KS research is a major step in understanding factors in comprehension. For researchers interested in extending Cummins' work on academic language proficiency, the research on KSs, text structures and genres is a major advance in specifying the nature of academic discourse and its components.

TASK

This section will discuss "task" and ILC. First, it will present the argument that task is a unit of analysis common to both content teaching and language teaching. Then it will discuss task based language teaching in some detail. Next it will show how cooperative learning, learning strategies, and English for Specific Purposes can be related to task and to each other. All of these are promising developments for ILC with LEP students (Fathman, Kessler & Quinn, 1990). Lastly it will examine the problem of analyzing the discourse of tasks, an essential matter both for research and classroom practice.

Task and Education

Classrooms are places where students work, where they do academic tasks. Students do assignments, fill in worksheets, read textbooks, participate in group projects. Yet student tasks have only recently become an important research topic. Doyle (1983) points out that research in the past has paid more attention to teacher activity than to student activity. But student learning may depend more on what the student does than what the teacher does. He argues that student academic work in school is defined by the academic tasks that they encounter that students learn what a task leads them to do; and that modifications in tasks may lead to increased student achievement; hence the basic unit of analysis for schoolwork is task, and "it is necessary to view the curriculum as a collection of academic tasks" (ibid.: 121). From a similar standpoint, Tikunoff (1987) outlines instructional strategies which help learners to become functionally proficient in student tasks; some of these strategies are for learners in general, and some are for LEP students in particular.

By "curriculum" Doyle means the whole K-12 curriculum: in the early elementary grades, the "basic skills" of language arts and math, along with social studies, music, nutrition, art and physical fitness; in the later grades the content and methods of inquiry of algebra, history, biology and literature. The significance of this perspective for the integration question is that it identifies a common unit of analysis for content work and language work: the task. Research on tasks from a subject matter perspective can be related to research on tasks from a language perspective.

Task and Second Language Teaching

In recent years there has been considerable interest in the language teaching literature in using student tasks as a basic building block for designing the language curriculum or syllabus. Nunan (1988) contrasts the task based syllabus with the traditional grammatical syllabus. The grammatical syllabus is product oriented, emphasizing the learning outcomes, goals or ends of the language course, whereas the task-based syllabus is more process oriented, giving attention to the learning processes or means by which the ability to communicate will be developed. Another contrast uses Wilkins' (1976) distinction between synthetic and analytic syllabuses. The traditional grammatical syllabus is synthetic and its units are different elements of the language that are taught separately; it is assumed that the learner will synthesize these elements together in communication. The task based syllabus is analytic: it is based on the task as a unit; the learner is exposed to the target language holistically, in large chunks, on the assumption that the learner will analyze the language input and develop a knowledge of the linguistic rules. (NB. Neither the product/process contrast nor the synthetic/analytic contrast is to be regarded as a matter of exclusive alternatives).

A central argument against the grammatical syllabus (and in favor of the task based) is that it is based on an analysis of the language to be learned, not on an analysis of the learning process, and so is not consistent within SLA research. "Language learning is a psycholinguistic process not a linguistic one, yet syntactic syllabuses consistently leave the learner out of the picture" (Long & Crookes, unpublished).

There is an important issue here which needs to be clarified. It is sometimes assumed that holistic analytic syllabuses which work with large chunks of language therefore necessarily exclude a focus on form. But there is no reason to believe that the selection of tasks as the major unit of analysis for a syllabus excludes student reflection on linguistic items as an instructional tactic.

Three types of task-based syllabuses, procedural syllabus, process syllabus and Task Based Language Teaching (TBLT), have been identified and evaluated by Long and Crookes (unpublished). The procedural syllabus is documented in the work of Prabhu in the Bangalore Communicational Teaching Project (Prabhu, 1987) and the project was evaluated (Beretta & Davies, 1985). Communicative tasks in the project included such examples as railway timetables, instructions to draw geometrical figures and solving problems based on values. Note that these are simply "communicative tasks"—not authentic tasks from a content course — and they are not directed at the exploration of a body of content knowledge. The process syllabus has been detailed by Breen and Candlin (Breen & Candlin, 1980; Breen, 1984, 1987; Candlin, 1984, 1987). It aims to make learning processes and the learners' negotiation of these processes central to the syllabus. The task-based language teaching in the work of Long and Crookes (Long, 1985, 1989, to appear; Crookes, 1986; Crookes and Long, 1987; Long and Crookes, unpublished). Long and Crookes make important distinctions among these three types. Firstly, Prabhu's procedural syllabus specifically rejects any direct teaching of language, but TBLT provides for a focus on form. That is, TBLT acknowledges a place for language awareness in language teaching based on the need for negative evidence in SLA (White, 1987) and the value of instructed interlanguage development (Long, 1988). Secondly, Candlin's and Breen's process syllabus is not based on a specific psycholinguistic rationale supported by results from SLA and second language classroom research (Chaudron, 1988) whereas TBLT is. The process syllabus is based on general views of the nature of education and the importance of negotiation and autonomy in learning. Finally, procedural and process syllabuses lack any needs analysis, but TBLT emphasizes the role of needs analysis to identify target tasks.

For these reasons, TBLT is the most appropriate syllabus model and will, therefore, be discussed in more detail. In TBLT task is defined in a broad everyday sense, with focus always on what is done not what is said; "A piece of work or an activity, usually with a specified objective, undertaken as part of an educational course or at work" (Crookes, 1986: 1). TBLT draws on task based needs identification to identify target tasks like solving a math problem or taking notes in a social studies class or participating in a job interview. Target tasks are grouped into more general target task types and pedagogic tasks are derived from these. Broadly speaking, pedagogic tasks are approximations to target tasks which are within the ability of the learner. The task syllabus is formed from a sequence of pedagogic tasks which have been ordered and graded on the basis of such psycholinguistic criteria as are available such as the amount and quality of negotiation work (Long, 1989). Appropriately, the assessment of student learning is by way of task based criterion referenced tests.

A special feature of TBLT (Long & Crookes unpublished: 4-6) is the way it adopts task as the unit of analysis in an attempt to provide an internally coherent approach to all six phases of program design: needs identification, syllabus design, methodology design, materials writing, testing and program evaluation.

It was mentioned above that TBLT emphasizes the role of needs analyses to identify target tasks, whereas procedural and process syllabuses do not. This is of special importance (see Horowitz, 1986). In programs for LEP students, the target tasks for the integration of language and content include the academic tasks they face in content classrooms and the occupational tasks they face in the world of work. It is a central goal of LEP programs to prepare students for these tasks. Of the three various task-based syllabuses considered, TBLT is the only one that addresses this goal.

Tasks, Group Work and Cooperative Learning

One prominent format for tasks is group work—tasks which two or more students work on together (see Gaies, 1985). Long and Porter (1985) review the arguments for group work in classroom second language learning, organizing them in two classes: pedagogical arguments and psycholinguistic arguments. The central pedagogical argument for group work is that it increases the quantity of student talk, the opportunity to practice language. The predominant teacher fronted lockstep classroom where the teacher talks as much as two-thirds of the time to the whole class leaves little opportunity for student talk. The central psycholinguistic argument for group work is an increase in the quality of student talk (in terms of the negotiation process); it provides opportunities for students to negotiate language input to their level of comprehension. Negotiation can be assessed by analyzing task dialogues for conversational repairs. Thus, we have a way to evaluate task performance based on known measures backed up by a psycholinguistic rationale.

McGroarty describes how cooperative learning offers the opportunity to integrate language learning and content learning (McGroarty, 1989, forthcoming). She defines cooperative learning and then discusses its implications for learners. "Cooperative methods require that the whole class be subdivided into groups which work together to accomplish academic tasks" (McGroarty, 1989: 129). There are a variety of cooperative methods including peer tutoring, jigsaw (in which individual students have responsibility for a single part of a team learning task), cooperative projects in which a group works together to produce a collective project, cooperative/individualized methods, in which a student's individual progress contributes to a team grade, and cooperative instruction, in which students work on individual assignments requiring interaction but are graded individually. McGroarty identifies various advantages that cooperative learning arrangements can offer LEP students: the move from a competitive classroom environment to a cooperative one, the possibility for the use of the first language in ways that support content learning and enhance second language development, and encouragement for students to take a mutual and active role in the acquisition of knowledge and language skills, thus empowering minority students through a reciprocal interaction model of learning (De Avila, 1986) emphasizing student control of classroom discourse and discovery processes.

In particular, referring to Long and Porter (1985), she argues that (1989: 131) "cooperative learning as exemplified in small group work provides frequent opportunity for natural second language practice and negotiation of meaning through talk." In other words, the Long and Porter psycholinguistic rationale for group work tasks offers a psycholinguistic rationale for cooperative learning tasks.

These considerations call for new research directions. An example will help to show these directions more clearly. Bejarano (1987) studied cooperative small group methodology in the EFL language classroom and provided one of the few studies that links second language group work to cooperative learning. Using seventh grade English classes in Israel, she compared two small group cooperative techniques with the whole class method and found the cooperative techniques superior, as measured by a language achievement test. While the Bejarano study is valuable from the perspective of language teaching alone, it differs in important ways from the research directions necessary for LEP students and ILC. Firstly, it examines cooperative techniques in group work in the language classroom not the content classroom, Secondly, while it uses a final achievement test to assess these techniques, it does not also examine the discourse processes of cooperative tasks.

By contrast a prime area of concern for ILC is the use of cooperative learning tasks in content classes rather than language classes and a particular target is the evaluation of the discourse processes of different types of cooperative tasks. There is need to see whether the discourse demands of the tasks created by the various cooperative learning techniques are diverse (peer tutoring vs. group discussion, for example) and vary with group composition (native speakers and LEP students) and different levels of language proficiency of LEP students. Wong Fillmore (1989) reports that heterogeneous grouping (in which students present a range of language proficiency) is more conducive to language learning than homogeneous grouping. How do these different cooperative techniques interact with variation in group composition (See Long, 1989, on task group combinations.)?

Cooperative learning raises further research issues within the task paradigm. The tasks examined in SLA research and used in the language classroom, like discussing the arrangement of flowers on a feltboard garden, may be quite trivial and isolated from and unconnected with earlier or later tasks. But the tasks chosen in a well-designed cooperative learning unit in a content classroom should form a coherent progression within the context of the subject area, constituting a complex "ecology" of tasks. What are the differences in performance between "isolated" tasks and tasks in the context of a content unit? Similarly important is the question of the degree to which different tasks elicit cognitive discourse. This is a question which has been neglected in cooperative learning research so far and urgently needs to be addressed (McGroarty, forthcoming:43). Peer tutoring, for example, would seem to call for cognitive academic discourse par excellence.

Task and Learning Strategies

A topic of much research interest in recent years has been learning strategies, both in education in general (Weinstein & Meyer, 1985) and in language learning in particular (Wenden & Rubin, 1987; Oxford 1990). Derry (1989: 5) gives a compact but useful explanation of learning strategies: "learning is a form of problem solving that involves analyzing a learning task and deriving a strategy appropriate for that situation." In this view, a learning strategy is a way of working on a learning task. Thus, there is an inherent connection between tasks and strategies. Moreover, the choice of strategy must take account of the task involved (Derry, 1989: 9; Oxford, 1990: 13). A recent strategy observation scale for classroom, the Class Observation Guide (O'Malley, et al., 1985b: 563-64) includes a number of aspects of a strategy including the task (or "activity") in which it is used. Learning strategies and cooperative learning are not mutually exclusive. Dansereau (1988) has studied cooperative learning strategies, and within the field of language learning, a number of scholars include cooperation with others as one type of learning strategy.

Chamot and O'Malley (O'Malley, et al., 1985a, 1985b; Chamot & O'Malley, 1987; O'Malley, Chamot & Walker, 1987; O'Malley & Chamot, 1989) have done important work on the learning strategies of LEP students. They see learning strategies instruction as a learner-oriented approach to teaching that helps students learn conscious processes and techniques that facilitate the comprehension, acquisition and retention of new skills and concepts; and as an approach based, following their research and that of others, on the propositions that strategic learners are better learners, that strategies can be taught, that learning strategies transfer to new tasks and, significantly, that academic language learning is more effective with learning strategies. From their research, they have identified three broad categories of learning strategies: metacognitive, cognitive and social-affective (which includes cooperation between students); they have found strategy instruction successful with integrative tasks of listening and speaking, and they particularly recommend instruction in metacognitive strategies (selective attention, self-monitoring and self-evaluation) because these apply widely.

Much of the work on language learning strategies is directed to the learning of the second language in the second language classroom. What, then, is the relevance to the language and content integration? O'Malley and Chamot state that their learning strategies as a whole should not be considered unique to second language learning because they apply both to English language development and to content area instruction (O'Malley, 1988: 51) and both to second language learners and first language learners. However, they believe that LEP students have difficulty employing learning strategies because, by comparison with native English speakers, they have less facility in meeting the demands of learning and using academic language in English.

Chamot and O'Malley illustrate how learning strategies can be incorporated with language learning and content learning through their design of the "Cognitive Academic Language Learning Approach" (CALLA) to provide transitional instruction for LEP students who are being prepared to participate in mainstream content area instruction. CALLA has three components: a curriculum correlated with mainstream content subjects and academic language development activities (in which they use Cummins' model of contextual and cognitive continua for L2 tasks) and learning strategy instruction. It has been implemented in a number of school districts and in a variety of workshops where teachers have applied the CALLA model to their own material.

The theoretical rationale for CALLA is based on the cognitive theory of Anderson (1985), which distinguishes between declarative knowledge, as in the facts and rules of academic content and procedural knowledge, or the routines and processes which become automatic with practice. This distinction is an important issue for future research. There is disagreement among applied linguists as to how it applies to language learning (DeKeyser, 1988: 109) and, to take one content area, there is debate among mathematics educators as to how it applies to mathematics learning (Hiebert, 1986). And, again, Anderson himself sees the relation of his theory to naturalistic educational interactions as an urgent matter for further study and a centrally important source of data; in a discussion of methodologies for studying human knowledge, Anderson (1987:476) argues that research on pedagogical programs for teaching, and particularly for teaching second languages, would be an excellent paradigm for studying the application of his theory.

As learning strategies and cooperative learning are used more frequently with LEP students, we are likely to find students discussing and sharing strategies as they work together. This aspect of student interaction is a promising area for study, not only because it is a way that students can learn strategies from their peers but also because it offers a natural window on everyday use of strategies in the classroom and on the role of declarative and procedural knowledge.

Task and English for Specific Purposes

Central to the integration of language and content is the question of the language demands of content-area tasks. The general body of scholarly work which deals with this issue is the area of "English for Specific Purposes," typically subdivided into English for Academic Purposes (EAP) and English for Occupational Purposes (Robinson, 1980; Widdowson, 1983; Swales, 1985; Hutchinson & Waters, 1987).

Early work in ESP and EAP was largely concerned with identifying grammatical features of texts. For example, it was noted that textbooks in science made frequent use of passive sentences, and this was incorporated into ESP courses for students learning science through the L2. We can note three lines of development away from this: discourse genres, learning tasks, and discourse communities. One line of development has been in the analysis of text, from individual syntactic features of text to a more inclusive view which sees these features in the wider context of rhetorical structures and discourse genres (Swales, 1987). Another line of development has been to shift emphasis from the linguistic features of texts to the developmental possibilities of learning tasks: to identify communicative tasks in the target situation (i.e., target tasks) and to design learning tasks (i.e., pedagogical tasks) which act as vehicles to help the learner develop the ability to do the target task (Hutchinson & Waters, 1987: 92, 109). The reasons for this move are essentially the same as those motivating the task-based syllabus generally: a desire to incorporate the learner and the learning process into the total course design and to integrate the various components of a curriculum. A third development has been to see texts not in isolation but in the cultural context of a discourse community in relation to communicative purposes within a communicative setting: for example, to consider not only the language and discourse characteristics of the high school science textbook but also the role the textbook plays in the work of the science class and in the academic subculture of school science with its appropriate disciplinary problems, data and methods of argument (Swales, 1985: 211).

A valuable example of research with LEP students which has been influenced by the ESP perspective is the work of Spanos, Rhodes, Dale and Crandall (1988) on the ways in which students develop and use math language in their mathematics and algebra learning, with special attention to instances in which language serves as a barrier to effective problem solving. They recorded small groups of students cooperating to solve mathematical problems and analyzed the verbal protocols of the students. Using a concept of the "register," or special language, of mathematics outlined by Halliday (1978), they identified syntactic, semantic and pragmatic features of mathematics language which were causing difficulty for the students.

The work of the CAL group can be seen in the context of a larger body of work within mathematics learning on problem solving. For example, Lochhead (1985) describes a classroom technique of pair or cooperative problem solving, in which one partner reads and thinks aloud while the other partner listens, checking for accuracy and demanding constant talk. This is a group work learning strategy which aims to teach analytic reasoning skills. Viewed in this context, the work of the CAL group clearly illustrates the natural fit among learning tasks (in this case, mathematical problem solving tasks), cooperative group work strategies, and the language demands of academic tasks. Cooperative problem solving talk acts in two roles — as a classroom strategy and as an important and natural source of discourse data for research. Language and content are integrated through the concept of the special purpose language of the task.

Task and the Analysis of Discourse Interaction

There are a variety of research methods that can be used to examine tasks; observation and interview are two of the most obvious. But if we are concerned with the integration of language and content, then a central place should be given to the analysis of the discourse of groups of students as they work on target tasks from content areas or learning tasks related to these target tasks. The analysis of such data has the potential to show, among other things, how language and content knowledge interweave and how tasks, cooperation, learning strategies and content-specific language interrelate. This area of discourse analysis is of value not only to researchers; it is directly useful to teachers and teacher educators who need to sharpen their evaluation of classroom tasks that integrate language and content development.

What approaches to the analysis of task discourse can be used to illuminate the integration of language and content? Despite the volume of general research which uses some form of discourse analysis, there is currently remarkably little which makes a direct contribution to our question, and hence there is a severe research gap which needs to be filled. Let us consider the matter with respect to the content-based language learning literature discussed in the previous section.

ESP Model

The work of the CAL group, Spanos, Rhodes, Dale and Crandall (1988), which used task group work to identify student difficulties with the special "register" of mathematics, links language and content through a theory of register and points to language difficulties in target tasks in the mathematics

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classroom. (For more recent work by this group, see the paper by Spanos and Crandall in Padilla, et al., 1990.)

Since much previous English for Specific Purposes research concentrated on the analysis of *written* texts in the target situation, the work of the CAL group is a valuable, significant example of the extension of this research to interactive tasks. A current body of opinion in ESP (e.g., Hutchinson & Waters, 1987) stresses the development potential of learning tasks more than the linguistic demands of target tasks and would presumably argue that the CAL group approach should be extended to study how students can use interactive learning tasks to learn the mathematics register. This could be a promising research initiative, though it should be noted that Hutchinson and Waters offer no specific suggestions for research implementation. And since the CAL group designed materials that are to be used in paired tutoring sessions (ibid: 236), paired tutoring would be a good source of data for this question.

Negotiation of Meaning Model

The negotiation of meaning approach builds on Krashen's Input model. In Long and Porter (1985) the central measures for the analysis of task discourse are features of conversational modification: clarification requests, confirmation checks, comprehension checks and similar moves in conversational exchanges. In this way Long adds "interaction" to Krashen's theory of "input." These indications of conversational repair work, or negotiation work, are seen as ways speakers negotiate and adjust conversational input to their level of understanding and thus foster second language acquisition. The analysis of conversational negotiation and repair has been the major approach to the performance of second language learners and tasks. It has been used in a large number of studies, many of which form the basis for a psycholinguistic taxonomy of pedagogical task types which is clearly needed for curriculum decisions (see Long, 1989).

Cummins' Language Proficiency model

A major objection to a sole reliance on measures of negotiation work in tasks for present purposes is that there is no reason to believe that they are measures of the development of academic language proficiency. This is not to deny the value of negotiation measures but rather to say that they are not adequate measures of cognitive language use. What would be more adequate? Cummins' (1984) theory of cognitive academic language proficiency significantly revises his earlier models of language proficiency and argues that there are two significant dimensions of communicative tasks and activities: a cognitive dimension (cognitively undemanding to cognitively demanding) and a contextual dimension (context-embedded to context-reduced). Cummins supports this claim with reference to a wide range of psychological and psycholinguistic literature but does not deal with the problem of the analysis of task data. Nor is the analysis of task data per se addressed in the later large scale study of bilingual proficiency (Harley, Allen, Cummins & Swain, 1987). This is a significant gap which calls for research not merely to make Cummins' model more directly testable but also to develop the model further.

Staab (1983, 1986) addresses the question of the cognitive dimension of communicative tasks in her work with elementary school first language learners. Staab (1983) explored the relation of communicative tasks (or "activities") in a kindergarten class to the categories of language function developed by Tough based on the earlier work of M. A. K. Halliday. Earlier work had found that the majority of spontaneous classroom interactions of six-year-olds consisted of the more "social" functions of maintaining the portion of the self in relation to others, controlling the behavior of others and communicating information. By arranging specifically designed group communicative tasks such as solving a science experiment problem or organizing an imagined zoo, Staab was able to elicit different functions from different tasks and particularly to elicit the more cognitive language functions of forecasting and reasoning. Staab (1986) explored the elicitation of the language function of forecasting/reasoning in elementary school classrooms with kindergarten, grade three and grade six students. Staab's work provides evidence that there is an established approach to studying the cognitive/linguistic aspect of tasks, that task design and teacher support can significantly increase the cognitive language potential of tasks, and that cognitive language development is an important concern for first language education and one that should be sustained into the later school years.

The context-embedded/context-reduced dimension of tasks can to some degree be studied through the use of reference in task interaction. Halliday and Hasan (1976, 1985) distinguish between situational or "exophoric" reference and textual or "endophoric" reference. This parallels Cummins' description of context embedded communication relying on situational cues to meaning and context reduced communication relying on linguistic cues to meaning. (It also indicates that the distinction should be termed "situational context/textual context." Communication which relies on linguistic cues to meaning does not have a reduced context; rather, it has a textual context.)

Berwick (1988) applied these measures to pedagogic tasks performed by adult speakers of English as a foreign language. He compared an instructional "hands-on" task which was face to face with a comparable one which was "back to back." One task involved the construction of a small Lego (snap-on) toy with the participants sitting back to back, one participant using a set of sequenced, graphic instructions and the other assembling the pieces. The other task was similar but with the participants sitting face to face. Predictably, he found the face to face task included more exophoric reference.

These measures of the cognitive and contextual dimensions are only a beginning, but they can and should be used with tasks performed by LEP students of school age in order to explore Cummins' model further. It should be noted that neither language function analysis nor reference analysis is limited to English. Both analyses can be used to study the development of cognitive/ academic language in both of a bilingual's languages.

Language Socialization Model

Bruner's investigation of young children learning game like activities through interaction with their mothers is a central example of the analysis of task and discourse in the language socialization perspective. Bruner (1983) shows how games as simple as peekaboo or hide and seek form tasks which are shaped in formats, or script-like interaction from which the child learns both language and culture. Initially the mother enacts the entire script of verbal and non verbal actions, but gradually arranges for the child to take over, "scaffolding" the interaction so that the child participates progressively and successfully, operating in the child's zone of proximal development. In other words, somebody with knowledge and awareness scaffolds a task for somebody without knowledge and awareness until the latter becomes capable of "reaching higher ground." For a discussion of the observation of classroom tasks from a perspective somewhat similar to Bruner's, see Erickson (1986).

"Scaffolding" is the most obvious feature of Bruner's analysis and has been a very popular concept. There has been research on interactional routines (Schieffelin & Ochs 1986) and on scaffolding with particular reference to the classroom (Cazden, 1988: ch.6). Hawkins (1988) studied scaffolded classroom interaction with fourth grade LEP students and found evidence that scaffolded interaction led to independent problem solving on the part of LEP students.

Critics have pointed out that scaffolding analysis is insufficient. Wertsch (1984) argues that the zone of proximal development involves different task definitions held by the adult and child (or by expert and novice), and the successful adult brings the child's definition of the task close to the more mature conception held by the adult (Rogoff & Wertsch, 1984). Cazden points out (ibid: 107-10) that the routine and scaffolding analysis is an inadequate discourse model of learning interactions because it fails to account for the development of the teacher's definition of the situation — how the learner comes to interpret the task situation in a new way, grasp the underlying principles and "go beyond the information given." To return to Bruner's game metaphor, the routine and scaffold analysis is an account of play in the game; it is not an account of rules which constitute the definition of the situation in the game. It is an account of how language is used to do a task; it is not an account of how language is used to interpret or reflect on a task or of how language is used to discuss knowledge. To restate: just as a game involves both play and rules, a task involves both practice and theory, action and background knowledge/frame of reference/definition of the situation. A more adequate analysis of task and discourse must account for both. This is a research priority for the further extension of the language socialization model. Cazden (1988:134) has pointed out the significance of students' talking to learn with their peers in the classroom: students can reciprocally take on the role of the teacher and practice forms of academic discourse. A more adequate analysis would help to capture this significance.

THE RELATION OF KNOWLEDGE STRUCTURES AND TASKS

How are "knowledge structures" and "student tasks" related? Anthropologists such as Spradley (1980) would see them as complementary, related as knowledge and action are related. Cultural knowledge guides cultural action; cultural action changes cultural knowledge. Knowledge structures illuminate the shape of academic knowledge and discourse; student tasks illuminate the processes of academic development.

Some work in education, however, has tended to see these two themes as opposed alternatives, as part of two exclusively different approaches to teaching. Knowledge structures, written genres and text patterns were seen as part of a static, teacher centered, literacy based, product oriented approach; student tasks and activities were seen as part of a dynamic, student centered, oral, process-oriented approach.

More recent work tends to regard product and process as complementary. A clear example is provided by Langer's and Applebee's work on writing across the curriculum in the first language (Langer & Applebee, 1987). They described the text structures of academic writing in content classrooms and also investigated the effect of student tasks such as note taking and essay writing. This indicates how it is necessary to combine a view of the organization of academic information with a view of how students work with such information.

The link between knowledge structures and student tasks is a complex and dynamic relation that future developments in ILC will explore in depth. Some important questions will be: how do knowledge structures apply to spoken interaction and to communicative tasks? How do formal and content schema influence performance in student tasks? How do task processes develop knowledge structures? Since group work with LEP students is liable to communication breakdowns, will the use of graphic representations reduce breakdowns? A course of study will typically contain both organized knowledge and student tasks. In such a course, how are textbooks, classroom interaction and student assignments woven together into a complex ecology?

CONCLUSION

The following recommendations are suggested to teachers and researchers with respect to knowledge structures and student tasks.

Regarding knowledge structures, cooperating language teachers and content teachers should:

(1) agree on knowledge structures common to both language and content goals and identify common graphic conventions for representing these KSs;

(2) identify and use KSs and relevant graphics in content course material and create graphic overviews of difficult material. They should help LEP students learn to do these things independently; and

(3) relate KSs to broad patterns of discourse in reading and writing and to the fine detail of grammar and vocabulary. They should help LEP students do this independently.

Regarding knowledge structures, researchers should:

(1) provide a more detailed analysis of KSs across the curriculum, of the main forms of graphic representation of KSs, and of the ways KSs are realized in discourse and grammar;

(2) study the processes whereby the teachers of LEP students use KSs as a means of cooperating to integrate language and content; and

(3) study the processes whereby LEP students come to learn and make use of KSs and their realizations in graphics and language.

Regarding student tasks, cooperating language teachers and content teachers should:

(1) agree on target tasks which can be both language and content goals. These will often be tasks essential to content classrooms;

(2) develop language-sensitive ways to support LEP students' work on content tasks;

(3) develop learning tasks in the language class to support the target tasks of the content classroom;

(4) consider the possibility of using group work and cooperative learning, of developing learning strategies for tasks, of developing the special purpose language needed for specific tasks; and

(5) consider ways of observing discourse and interaction during tasks as ways of assessing the value of the task and of improving the task design.

With regard to student tasks, researchers should:

(1) coordinate research on task from a language perspective with research on task from a general educational perspective, with a view to the interests of LEP students;

(2) continue and extend the work on LEP students and cooperative learning, learning strategies, and English for Specific Purposes and examine the possible linkages between these three areas; and
(3) continue and extend work on the task discourse of LEP students, both quantitative and qualitative, analytic and holistic.

This review has discussed knowledge structures and tasks as two different ways of thinking about the integration of language learning and content learning. We can look at both from a content perspective or from a language perspective. Both can be approached in a basic way so that they are easy topics of discussion and practical exploration with students and teachers. Knowledge structures can be approached very simply through graphics, and tasks can be approached very simply through student assignments and classroom activities. Both lend themselves to organizing and treating in a coherent way a number of elements that had been fragmented and unrelated before. Both have immediate practical implications and both raise important research questions. Knowledge structures and tasks are not alternatives: they are complementary ways of looking at the integration of language learning and content learning. Future work will take advantage of the ways they complement each other.

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EARLY CHILDHOOD: THEORIES, RESEARCH AND IMPLICATIONS FOR BILINGUAL EDUCATION

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INTRODUCTION

Early childhood education is a developing field of study in the United States. Although there is some debate about the range of children's ages that encompass this field (Cartright and Peters, 1982), current teacher educators and researchers regard birth to eight years of age as early childhood (Peters, Neisworth and Yawkey, 1985). From programmatic, human service and developmental perspectives, early childhood typically contains several smaller age-related areas of infancy (birth to two years), preschool (two to four years), kindergarten (five years) and primary grades (six to eight years). In states such as California, New York, Pennsylvania and many others, early childhood teacher certification is increasingly viewed as professional certification of individuals deserving to work in nursery through third grade school programs with children from two to eight years of age. Accordingly, this paper provides an overview of the major mainline early childhood theories and research studies that underlie this field of study. It relates these theories and studies to young limited English proficient children. In addition, it suggests implications of these theories and research studies for practitioners and school administrators. The paper concludes with issues and recommendations for further research.

EARLY CHILDHOOD THEORIES AND RESEARCH STUDIES

Peters, et al. (1985) and Nurss and Hodges (1982) describe historically several forms of early childhood education in the United States that mutually coexist and intersect: kindergarten, nursery school, day care and compensatory education. Each form has different goals for the young child. The major goal of kindergarten is to prepare the young child for formal schooling in first grade. It is generally regarded by many early childhood educators as a bridge between home and school and, therefore, stresses socialization or social adjustment (Nurss and Hodges), fine and large motor development and other areas such as positive attitudes toward self, school and society.

In general, nursery school goals also stress socialization and positive self concept. Lay and Dopyera (1977), in Nurss and Hodges, note that nursery schools as half-day programs for young children two to five serve families primarily from middle to upper socioeconomic levels. Play and its various forms, in inside and outside environments, help to crystallize positive socialization and self concepts in young children. Day care, as the third form of early childhood education, varies widely from state to state. Serving a variety of age levels, from infancy to age five, in full-day programs, day care can be center- or home- based as well as private, proprietary, public or operated by business or industry exclusively for their employees. The goals of day care also vary from "custodial care to developmental and/or educational growth and stress a mix of developmentally and educationally appropriate activities" (Nurss and Hodges, p. 505).

With massive federal funding of Project Head Start in 1965, compensatory education began for children from low economic strata. Although the goals of Project Head Start are indeed comprehensive and cover numerous areas such as nutrition, health, and social, emotional, physical and intellectual and family development, Head Start is regarded by most early childhood theorists as the beginning of the early childhood field. There are several reasons for this recognition:

1. Peters, et al. (1985, p. 27) note that Project Head Start was the legitimate offspring of and brought together the various early childhood forms of kindergarten, nursery schools and day care. In addition, Head Start represented a new, first attempt on a large federally legislated and funded scale for "systematic intervention into the lives of young children and families with the explicit intention of accomplishing large social goals." (Peters, et al. p. 27).

2. Founded on social unrest of the 1950s and 1960s and child development research results that showed cumulative cognitive and stimulation deficits favoring middle over low SES children, Head Start ushered in great regard for theory and research driven early childhood programs and leashed theory and research to serve the young child (Cartright and Peters, Nurss and Hodges).

3. Although the initial Head Start assumption of cumulative deficits is highly questionable in present early childhood education, Head Start served "to emphasize intellectual and language development and deemphasize social adjustment as goals as well as to stress the plasticity and malleability of development and learning in young children" (Nurss and Hodges, 1982, p. 498).

4. Head Start for early childhood education legitimate unique, significant contributions that parents make to their young children's development and learning and the significance of parent involvement and education for school programs.

With the recent establishment of this field of the young child from the foundations of Head Start and child developmental and psychological studies, early childhood education since 1965 is greatly influenced by theories and research. Such theory and research serve as bases for young children's development, learning and programming as well as policy making.

World Views of Early Childhood

From 1965 to the present, theorists and researchers in early childhood such as Kohlberg (1968), Langer (1969), Lerner (1976), Lohman (1989), Garcia (1986) and DeAvila and Duncan (1979) view the young child from various human development frameworks. Two of these major theoretical frameworks or world views are cognitive-developmental (or organismic) and maturational/linguistic (or socialization). Related to the latter "world view" is contemporary sociolinguistics. Briefly, the cognitive-developmental model sees the young child's learning as a product of reciprocal interactions between self and environment. The maturational/linguistic mainstream views the child's development and learning as a series of emerging, predetermined, overlapping abilities and/or traits.

Peters, et al. (1985) sketch a set of assumptions for implementation and use of the world views underlying the field of early childhood:

1. Direct relationships exist between early childhood world views, research studies and classroom practices; sound practices are derived from theories and research.

2. These world views or models as foundations for programs and teaching practices are more effective and provide sounder, more valid outcomes for children's development and learning and are more cost effective than practices and programs built on teacher intuition, experience (which takes years to develop) or opinions.

3. Given the extensive theoretical and research bases of these world views of development, each of these models produces reliable and valid outcomes; no one model is a total prescription for a child's learning, classroom programs or teacher practices but instead they are approximations or blue prints to guide learning, programs and practices. Here continued research and refinement of theory feedback further refine classroom programs and practices.

4. Rather than being a single road to educating the young child, the world views or models approach "assumes there may be some models that suit some children better than others" (p. 41). Thus, the best match between young child and program is theoretically and practically possible.

5. Each world view can be validated empirically. In fact, Peters, et al. (p. 41) state that "experimental comparisons across theoretically derived models (and across theories) not only are called for but are considered essential".

6. Finally, a models approach is beneficial for the young bilingual child because it does not support any particular native language or sociocultural milieu (DeAvila & Duncan, 1979). Gunderson (1982, p. 204) notes that with the world views, "the potential advancement of bilingual children should manifest itself in superior performance on general ability tasks such as intelligence...!" The next section provides a description of each theoretical world view and selected research studies.

Cognitive-Developmental

The cognitive-developmental world view of the young child was originally developed by Dr. Jean Piaget. Piaget (1950, 1954, 1973) developed and researched several assumptions about the nature of children's learning and the development of human thinking. Postulating that development and learning evolve through reciprocal interactions between the individual and the environment, Piaget and Inhelder (1971) focused their efforts on emerging thinking or the development of operational, social intelligence.

Through organismic concepts such as "action-orientation for intellectual growth," "internal mechanisms of assimilation and accommodation," "variability of development between children" "invariability of stages for the growth of thinking," Piaget painted an interactive mosaic necessary for cognitive and language growth of the young child. Although substantive and detailed narratives of cognitive-developmental theory and studies appear elsewhere (as examples, see Sigel and Cocking, 1977; Furth, 1970; Forman and Kuchner, 1977), several concepts of cognitive interactionism are described to help the reader understand this world view and its relation to the young child's intellectual and language growth. These include components of the cognitive interactionist model, factors that contribute to intellectual growth, and developmental stages.

First, the components are structure, function, and content. Cognitive structures are mental concepts (i.e., schemata) that grow and evolve through function. How the young child develops structures, their richness and variability depend on his/her interaction with physical and social environments. Thus, structures are not inherited but inferred from young childrens' cognitive and language behaviors and actions. Because of the necessary interplay between the child and her/his environment, structural concepts develop with age and enable the young child to understand more meaningfully, for example, number, classification, and languages. Functions, unlike structural concepts, are constant, stable, continual and invariant characteristics in all thinking individuals. For Piaget, his associates and other cognitive interactionists, function is the essence of intelligence or intelligence-in-action (Peters, et al. 1985). Examples of function include the conceptual movement of the child from egocentric to nonegocentric thinking and from lack of conservation to conservation abilities (i.e., understanding that amount or quantity of matter remains the same regardless of changes in its position or shape). Content describes the actions that children make on the environment (i.e., what they do and what they say.) These observable behaviors reflect intellectual activity. For example, whether or not children can show or explain that two equal balls of playdough remain the same even though they flattened one of the balls tells whether or not function can be inferred (i.e., conservation of mass). Through observation, content mirrors intellectual activity through structure. Because of the interrelated nature of the interaction among these components and the role of function, cognitive developmentalists view thought and language in the young child as separate systems. When the young child develops forms of concrete operational thinking, language and thought become inseparable and support one another. More detailed description of the roles of thought and language follows (see the explanations of the intellectual factor of "direct experience with the social world").

Another understanding of the cognitive-interactionist world view concerns the four factors that contribute to intellectual development in young children: maturation, equilibration, and direct experiences with physical and social environments. These factors, according to Piaget, influence cognitive development and provide further definition of structure, function and content components.

The first factor, maturation, is biological-based and provides the foundations for intellectual and language development to proceed in an evolving fashion. Specifically, maturation refers to the growth of brain tissue, endocrine, and neurological systems and other organ operations which serve individually and as a unit to "refine capacities for cognitive development" (Peters, et al., p. 228). As these biological mechanisms develop, specialization and differentiation, maturation determines and defines parameters of possibilities and impossibilities for each child's cognitive and language growth (Inhelder & Piaget, 1958).

Equilibration, the second factor, occurs automatically. It relates to children's cognitive structures and the developmental experiences (Furth, 1960) they have in their physical and social environments, i.e., they realize something personally and individually meaningful for the first time such as relationships between distance, rate, and time, Einstein's $E = MC^2$, that some things float and others sink or that objects can be classified by two or more characteristics and so forth. Accordingly, equilibration is an active mental process used by children as they act on and react to their physical and social environments. Through this process, they acquire new meaningful concepts. As children experience, question and solve meaningful problems of their interest and personal concern, equilibration occurs. In a sense, the young child's active thinking processes move to and away from equilibration. This is a constant conceptual movement from equilibrium (where thought structures are balanced) to disequilibrium (where cognitive discrepancies exist between mental structures and experiential encounters) and then to equilibrium and so forth. For example, a preschooler who understands that all objects float (i.e., equilibrium) and then experiences some that do not float creates disequilibration or mental imbalance. Equilibrium as a mental structure is restored as children receive greater, richer experiences. For example, as objects are placed in water, they understand that some things float while others sink. Equilibration, according to cognitive interactionists (e.g., Furth, 1960) produces an inevitable progression from lower to higher order thinking.

The third factor, direct experience with the physical environment, is also an influencer of cognitive and language growth. As young children move, see, grasp, touch and taste physical objects or perform other sensory and motor activities, they experience and act on these objects and activities. In turn, the children's mental structures become modified through these sensory and motor experiences to fit or mesh with new and existing concepts. This continual interplay between the child and her/his physical environment is a critical base for development of intellectual and language concepts. "Learning by doing" and "using physical objects and experiences in the service of learning" are common cognitive-interactionist understandings of adults working with young children.

As children's ages increase, they require fewer and fewer sensory and motor experiences to develop intellect. For example, the young child of three or four requires constant actions of pushing, touching, pulling and so forth in order to develop mental concepts. Here they use trial and error and then intention as they continue to increase and gain experiences. However, older children use increasing quantity and quality of symbolic experiences which also serve intellectual growth (Peters, et al., 1985). Although older children still engage in sensory and motor actions, they can symbolically represent and use one set of objects for another to problem solve situations (Sigel & Cocking, 1977). As Peters, et al. (1985, p. 230) state, "The children have internalized these familiar objects...their function...and...can mentally represent familiar objects, situations, and people...not present."

The final critical factor influencing cognitive and language development is direct experience with the social environment. This factor emphasizes the impacts of social and cultural factors on the growth of young children. Within the social and cultural milieu, the roles of institutions are of primary import. These institutions include the family, school, religious organizations and the more informal cultural activities and experiences and significant others. These formal institutions and cultural activities transmit meaningful cultural and social understandings, attitudes, skills and values. In similar fashion, young children act on, react to, and develop their intellect and language through social experiences. Peters, et al. (p. 233) state that cultural and "social institutions provide additional opportunities to construct cognitive structures through interactions based on these social experiences."

Relatedly, Garcia (1986), Hakuta (1987) and Calderon and Cummins (1982) regard social and cultural contexts as keys to the acquisition of two languages in early childhood bilingual education. Hakuta (p. 1372), like Garcia, views bilingualism as individuals "having equal facility in both languages (balanced bilingualism)." Garcia (p. 97) identifies several social conditions necessary for the development of bilingualism in young children:

1. Children are able to comprehend and produce linguistic aspects of two languages.

2. Children are exposed "naturally" to the two systems of languages as they are used in the form of social interaction during early childhood. This condition requires a substantive bilingual environment. In many cases this exposure comes from within a nuclear and extended family network, but this need not be the case (visitors and extended visits to foreign countries are examples of alternative environments).

3. The simultaneous character of development must be apparent in both languages. This is contrasted with the case of a native speaker of one language who, after mastery of that language, begins on a course of second language acquisition.

Through actions and activities performed in social environments, the acquisition of bilingual capacities is nurtured and facilitated. In substantiation, Edelman (1969), in Garcia (1986, p. 98) examined various social settings of school, home, neighborhood and church and the effects of these contexts on word naming. The results suggest that the young children's Spanish and English vocabularies change in these environments. Garcia (p. 98) further states that "language is learned within a child's culture, and children coming from different cultures will use language in ways that reflect their different cultures."

Canale and Swain (1980), in Calderon and Cummins (1982, pp. 27-28) emphasize the development of bilingualism through two social content approaches:

1. communicative or functional/notion approach — based on communicative functions (i.e., apologizing, describing, inviting, promising), and

2. situational approach — focusing on particular settings or situations (i.e., situational dialogues).

From cognitive interactionist perspectives, language and communicative proficiencies for bilingualism evolve in young language minority children through social context.

Developmental stages are the final elements critical to and embedded within the cognitive interactionist world view. Consistent with the cognitive interactionist world view, stages are viewed as specific benchmarks or periods in the intellectual development of individuals from infancy, childhood, adolescence to maturity (Piaget, 1950, 1954., Flavell, 1963). The construct of stage implies that intellectual development is partitioned into and characterized by general, global attributes of cognition across the individual's life span. These global intellectual attributes and benchmarks are ordered into a successive series of levels by age range approximations: (birth to 2 years), preoperational (2/3 to 7/8 years), concrete operational (7/8 to 11/12 years) and formal operational thought (11/12 to 16 years and beyond) (Hunt, 1961).

Piaget and other cognitive interactionists (i.e., Flavell, 1963., Hunt, 1961., Wadsworth, 1974) identify specific cognitive characteristics that show development within each and attainment for the next successive stage. Since this paper focuses solely on the child's early years (birth to 7/8 years), the following paragraphs describe specific cognitive attributes for and within the sensorimotor and preoperational stages. For excellent detailed reviews of cognitive characteristics beyond the early childhood years and specifically for the concrete operational and formal operational stages, see Flavell (1963), Lerner (1976), Hunt (1961), or Wadsworth (1974).

Since intellectual development of the preschool, kindergarten and primary grade child evolves from and within qualitative conceptual yet discontinuous changes of cognitive concepts in infancy, cognitive interactionists view the sensorimotor stage with similar importance as the more advanced preoperational stage. Peters, et al., 1985 identify several major cognitive attributes within the sensorimotor stage. These include:

1. reflexive actions of sucking, grasping and crying;
2. intentional actions such as striking, pounding, pulling and banging objects;

3. discrimination abilities among familiar and then novel objects, people and situations;

4. movement of cognitive development from reflexive to more [representational] structures;

5. coordination of eye-eye, hand-mouth, eye-object, and others through trial and error, repetition, and then intention;

6. discovery of the body as objects that are independent of his or her own;

7. anticipation of movements of his or her body and objects for space, time and causality;

8. solution of novel problems by coordinating two or more previously learned action schemes;

9. coordination of action schemes to arrive at solutions to problems; and

10. from very simple to complex cognitive structures to represent objects mentally and generate, rather than arrive at, solutions through physical or active experimentation (p. 245).

Although the above cognitive characteristics are a selective listing, they represent, nevertheless, an impressive growth, refinement and expansion of concepts within a very short two-year period. These and other intellectual attributes that develop within the sensorimotor stage and other stages arise through the previously explained interactive concepts, the four factors contributing to intellectual growth and the components of structure, function and content.

Using the metaphor of practice play (i.e., repetition and pleasure derived from actions) at the sensorimotor level, Piaget (1962) provides interesting understandings and examples of these developing attributes using language and movement. Embedded within three levels of increasing development of simple, intermediate and complex, Piaget (1962) shows language and movement practice play actions evolving through the infant's exploration of the environment, repetition of his/her actions and her/his amusement or pleasure derived from actions. For example, in simple language and movement practice play, the infant models or produces utterances, words and physical actions through exploration which are in turn repeated many times. The infant performs these simple language (e.g., "ma", "mama", "Me eat") and movement patterns (e.g., banging rattle against wall, playing with toes) many times for the pleasure and fun derived from these repetitions.

At the intermediate level of language and movement practice play, the infant reproduces language and movement actions and through trial and error adds other utterances, words and movements that may or may not relate.

Examples of trial and error additions for intermediate language practice play might be "mama go" or "mama go spoon" and for intermediate movement practice play could be banging the rattle against the wall and on the table or rattle-against-wall, then-on-the table, then crashing to the floor. Words and physical actions are associated through trial and error and are repeated for fun and pleasure derived from these repetitions. However, the infant develops practices and masters these language and motor units and later is able to reproduce these same units with intention. Peters, et al., 1985 (p. 244) note that: "Through repeated attempts and much active practice, the infant retains the scheme [concept] that works best. Two or more schemes become coordinated and the scheme-of-the-goal is activated accordingly, and at the complex level of language and movement practice play the infant uses these utterances and movements with intention and to accomplish a goal." The uses of language and movement become meaningful and coherent to others and show the evolution of thinking processes.

With the development, expansion and movement from reflexive, sensorimotor to representational (i.e., "out-of-sight-is-not-out-of-mind") thinking, the infant invents "new means to solve problems...[and]... produces faster solutions... without physical experimentation" (Peter, et al., p. 245). With this development and at the end of the sensorimotor stage, the preoperational period commences.

Within the preoperational stage, thinking and language show greater operationality and become more flexible (Cartright & Peters,1982, p. 248). Here several major cognitive attributes illustrating this stage include egocentrism, nontransformation, centration and nonreversibility (Ginsburg and Opper, 1969. Flavell, 1963. Wadsworth, 1974). Like the evolving thought characteristics in the sensorimotor stage, cognitive interactionists, similarly, view each of these attributes of the preoperational stage along developmental continua. For example, the child in entering the preoperational stage shows egocentric, nontransformational, centered and nonreversible thought and in exiting it demonstrates nonegocentric, transformational, decentered and reversible thought.

In egocentric thinking, the young preoperational child is cognitively unable to step into the shoes of another and see other children's perspectives or points of view. The child sees his/her own point of view while others' are disregarded; contradictory ideas and information are incorrect. Because of egocentric thinking, the young child rarely debates or monitors her/his own thoughts. Near the end of the preoperational stage, the young child is able conceptually to see others' viewpoints. With each new emerging concept during and after the preoperational and other stages, cognitive processes move from egocentric to nonegocentric thought.

In nontransformational thinking the child views segments of related actions, activities, or events as isolated, individual, and separate (Wadsworth, 1947). The child shows great difficulty in conceptually putting together these related segments into one integrated event or action. Cognitive interactionists such as Wadsworth view this as transductive reasoning since beginning, middle, and ending segments of an event, although related, are viewed as separate, unitary ones. By seven or eight years of age, children are able to integrate successively related actions or activities as one action, event or activity.

Similar to nontransformational abilities, in centration children are acquiring thought processes to disregard superficial for salient characteristics of objects, actions and situations (Wadsworth, 1974). In this sense, and as they move through the preoperational stage, children's thinking moves to greater decentration. They are more able to conceptualize meaningfully related characteristics in their environments rather than being perceptually misled by irrelevant attributes.

Reversible cognitive thought occurs when children are able to think about situations and draw logical conclusions from beginning to end points and then reverse their thought processes to arrive at the beginning point. Cartright and Peters (1982, p. 482) refer to arriving at the beginning point as "thinking backwards." Preoperational children develop reversible thinking throughout this stage with materials, situations, and events with which they are experientially familiar.

There are currently available some research studies with young limited English proficient (LEP) children, which show the results of cognitive developmentally based bilingual school programs. These studies include the High Scope Project (Hohmann, Banet & Weikart, 1979) and Title VII's Academic Excellence Project P.I.A.G.E.T. (Promoting Intellectual Adaptation Given Experiential Transforming) (Nivette, 1991). For the High Scope Program, Hohmann, et al. (1979) report "average gains in IQs of 23.5 points for young children in the first year and 16.8 points in the second year" (p. 286). In cross-sectional research on the P.I.A.G.E.T. Program, Nivette's (1991) findings show that the P.I.A.G.E.T. group compared to a comparison group of young bilingual children yielded significantly higher receptive and expressive English language and reading readiness scores. These results are consistent across several years with different groups of bilingual children. In longitudinal research, Nivette (1991) reports two related findings: (a) "By the time they [P.I.A.G.E.T. children] reach grade four, they are achieving at the average NCE of 41. This score is above the LEP average of 30 NCEs reported in other research" (see reviews in Krashen, 1981) (Nivette, 1991), (b) Gains made by P.I.A.G.E.T. children in fourth grade, compared to national norm reference for LEP children, are sustained in the fifth and sixth grades (Nivette, 1991).

Hakuta (1987, p. 1372), in researching cognitive abilities of young bilingual children, finds "positive and statistically reliable results ...between nonverbal intelligence measures and the degree of bilingualism in the younger cohorts...!" Consistent with cognitive developmental theory, Hakuta (p. 1373), speculating on these results, suggests that young bilingual children may develop "early objectification of language ...[through)... the use of two languages." On nonverbal measures of cognitive capacities, Hakuta's results are significant particularly for the younger child who is developing cognitive thought structures.

From currently available research studies, the results appear to suggest that cognitive developmental programs for young bilingual children may be alternative, viable programs of interest to school districts and preschool agencies.

Maturational Linguistic

The maturational/linguistic world view of the young child with special foci on bilingualism is advocated by Saville-Troike (1973), McLaughlin (1978,1987) and Chaudron (1988). They indicate that language is acquired for utilitarian reasons. That is, the child begins to develop sounds and place those sounds in such an order until they may elicit a response from the parent or other significant adults. As the child matures, experimentation with sounds is continued until such time as the child feels that the environment is responding to him/her. The sounds are put together and bring about the development of a functional vocabulary. Saville-Troike (1973) points out that language is systematic, symbolic, a way of social interaction and that it has meaning. The child develops meaning when social interaction occurs with the significant others and then with the environment.

From traditional maturationist perspectives, there are three factors that should be considered in the process of language development in young children. First is the character of the input to the process of acquiring grammar. The second factor is the functions of the utterances made by the young child. The third factor is the nature of the context in which young children's talk takes place (Dore, 1979). Conversation becomes the primary process in the development of language for the young child.

Bruner (1978) suggests that early language development is a function of the psychological processes leading to the acquisition of the language. To be able to communicate the child must acquire a set of broad skills. These skills are perceptual, motor, conceptual, social and linguistic. The manipulation of this set of skills permits the young child to develop a model of conversational patterns.

Bloom (1970) discusses the development of early syntax. He suggests that the ambiguity of the surface form used by the speaker affects the process of language development. Bloom concludes that the analysis of semantic structure requires information about extralinguistic context. In addition to extra linguistic context, the other factor is the child's imitation of the speech patterns of the significant adult, usually the mother.

Chomsky (1965, 1977) discusses the nature of utterances in relation to discourse and social context. Two basic functions are discussed—first, how the form of utterances constrains the functions they perform and second, how the form of utterances constrains the list of utterances themselves. The point is that when young children speak to each other, they display successive turns when speaking. When children are interacting they accomplish the task of communicating by controlling their speech sequences. The development of a second language is similar; the young child will begin to learn the words that are necessary to communicate with significant others and subsequently with those persons in the social environment. Frequently, the learning of a second language occurs as a result of frequent uses of stimuli and oral symbols in response to those stimuli. As a result of these processes, the young child develops meaning from the oral communication, learns the values of the society around him/her and shares with others his/her perception of the world.

Five hypotheses are advanced in the literature which relate the young child with maturational/language growth (Krashen, 1985). The five hypothesis are the acquisition-learning hypothesis, monitor hypothesis, natural order hypothesis, input hypothesis and affective filter hypothesis.

In the acquisition-learning hypothesis, Krashen (1985) suggests that a person has distinct processes of developing competence in a second language. Acquisition is a process that operates in the subconscious and is similar to the development of a first language. Learning is a conscious process of developing a language because the young child realizes that particular aspects of the language that is learned are different from the first language. McLaughlin (1988) indicates that one of the problems is that learning a second language may not be acquisition. However, Krashen (1982) notes that there are three reasons for assuming that learning might not become acquisition. First, sometimes a person might know a second language but does not have a conscious knowledge of the rules. Second, learning may never become acquisition because a person might have consciously learned the rules but does not apply them. Third, the rules of a second language are not always known by the speaker.

For the monitor hypothesis, Krashen (1982) suggests that a child's learning a language serves as a monitor to the way he/she speaks. Learning is present when a change is necessary in the way the young and older children are speaking. Krashen does not believe that formal learning helps the young child because it represses the monitor. Knowledge of rules will not help in the acquisition of language. The function of the rules is to help the young learner to sharpen existing language skills. There are "three conditions in which the monitor is used: time, focus on form, and knowledge of the rules" (Krashen, 1982). While older learners might initially acquire a language faster, the young child over time acquires a larger amount of language. Therefore, if one were to measure the ultimate attainment of the second language, activities that focus on experiencing the environment might provide a unique opportunity for the development of a second language by young learners.

The evidence in favor of Krashen's input hypothesis (1985) is that there is a silent period in which the learner listens until linguistic competence is developed. In addition, age is an important variable in second language acquisition. The older the learner, the more the linguistic transfer. However, if the intention of the teacher is to assist the young child to develop a second language over time, the preoccupation should be with providing as much vocabulary as possible to the child.

For the affective language filter hypothesis, Krashen (1985) suggests that affective factors play an important part in the language acquisition process. Language may not be produced by the young learner if there are external factors that affect the process of learning a second language. The affective filter hypothesis captures the relationship between affective variables and the process of second language acquisition.

McLaughlin (1987) presents several theories that relate to the maturational/linguistic framework: the interlanguage theory and the acculturation theory. These two theories attempt to explain two major sources in the continuum of second language acquisition. The interlanguage theory refers to the development of separate linguistic systems in which the young child attempts to produce the norms of the target language. A systematic interlanguage was found in young children. Selinker, Swain and Dumas (1975), as quoted by McLaughlin, report that under certain circumstances, when the second language was acquired after the first language and when it occurs in the absence of native speaking peers of the target language, an interlanguage will develop in the speech of children. The interlanguage is defined as an intermediate grammar that is a single system composed of rules that have been developed via different cognitive strategies.

Acculturation theory refers to the study of second language acquisition without any formal instruction. The framework for this theory is developed by several researchers (Labov, 1966., Bicherton, 1973). Language is perceived by these researchers as evolving over time. The theorist's attempting to define the social-psychological factors that affect second language development in young children have not as yet developed a coherent, tested theory.

Relatedly, Williams and Snipper (1990) have identified three types of literacy which the young child with a limited English proficiency needs to employ in order to adjust to the cultural milieu. These three types are functional, cultural and critical literacy. Functional literacy denotes ability to read and write well enough to understand designs, read newspaper headlines and make shopping lists (Williams & Snipper, p. 4). A young child in the process of developing a second language needs to develop a functional vocabulary. Many teachers are working under the assumption that the young child needs to learn academic, rule-governed language in order to function in the mainstream of society. The reality is that young children with limited English proficiency often have to negotiate their way through two languages and two cultures, the school and the home. This phenomenon requires that young children be allowed to develop functional literacy in both native and second languages. Cultural literacy refers to a broad range of behaviors associated with what is perceived as the socio-historic context of the content presented to the young child that is beginning to read (Williams and Snipper, p. 6). The young child is exposed to the new society and culture through reading. Frequently simple stories are formulated from the context of the new culture. While the young child might understand vocabulary, the concepts that are conveyed are not readily understood. The meaning of text is conditioned by the experiences, background and values of the young child. Critical literacy is the ability to recognize the social essence of literacy and its political nature (Williams and Snipper, p. 10). The texts to which young readers are exposed not only reflect the beliefs of the reader but also convey a political message. The nature of schooling is such that frequently children with limited English proficiency are exposed to stories depicting the values of language majority culture. The young child might not understand the underlying message because the child is not sensitized to the political changes which are occurring in the environment.

In sum, maturational/linguistic theories and studies frame the young child in an environment of evolving growth processes which set stages for learning. These processes have implications for school and classroom programs.

Implications of Theories and Research for Practitioners and School Administrators

Since 1965, theories and results of research studies and their implications for practice are characteristic of contemporary early childhood. In program planning, implementing and evaluating young children's growth, implications of these world views are evident in several contemporary early education programs. For example, federal Project Head Start Program for three-to-five year-olds and its Planned Variation for six-to-eight year old children (in the primary grades) use implications of world views of human development for program applications. Head Start and Planned Variations have implemented both cognitive developmental and maturational world views (Evans, 1975). In addition, these federal programs have successfully implemented the mechanistic world view (which sees children's learning as an environmental product) (Cartright and Peters, 1982, p. 478) and/or a mix of several world views. The mechanistic framework, in general, sees young monolingual and bilingual children from low economic strata as "at risk" and "at deficit" using a middle class criterion. It focuses largely on grammatical or linguistic form (i.e., syntactic, phonological, morphological patterns and lexical items) (Calderon and Cummins, 1982). The contemporary programmatic utility of the mechanistic framework with these children is being questioned and debated (Lohman, 1989). Further, private schools have used the Montessorian/maturational world view quite successfully with young and older children in the United States (e.g., Montessori, 1966). Finally, other federal programs have employed these perspectives with young bilingual children in qualitatively varying degrees — e.g., Title VII's Academic Excellence, Special Populations and Transitional Programs. Accordingly, the world views framework and the respective research studies underlying these perspectives are ideal in for practitioners and school administrators identifying implications and applications with young LEP children. In the following section, several major implications and applications are identified and described. We begin with cognitive developmental and then discuss maturational/linguistic implications.

Cognitive Development Implications

The initial studies of Piaget (1954, 1962, 1974), his associates (Inhelder & Piaget, 1958) and follow-up and extended research by Flavell (1963), Furth (1960), Furth and Wachs (1975) and Lohman (1989) have several implications in school settings for curriculum programming, teaching and selecting learning materials for young LEP children.

Curriculum Programming

From concepts such as factors contributing to intellectual development, model components and cognitive characteristics of the young preoperational child, the major implications include integration and design of curricula for classroom programs.

Given the theoretical and research press of cognitive developmentalism for holistic growth, the young LEP child has active, evolving intellectual processes viewed within a mosaic embedded with language, socioemotional, physical and representational elements. Research, therefore, implies a "best match" between the young LEP child and curricular programming. This best match maximizes the potential for thought and language development with ongoing curricular experiences. Here practitioners and school administrators plan for the whole child, evaluate to determine whether ongoing classroom activities meet individual children's needs and insure the best match between them. In planning and implementing, integration of curricula becomes paramount for developing first and second language and cognitive processes. For the young LEP child, curricular programming based on "themes" is most appropriate examples include transportation, family community, seasons, living things and so forth. Accordingly, curriculum programming as integration appears at several levels. At the first level, insuring that curricular programming and its classroom activities and experiences spin around identified themes is paramount. For example, the transportation theme might be planned around related subthemes: types and uses of transportation, building/making transportation vehicles, purposes of transportation and so forth. Appropriate classroom activities for each subtheme are planned and carried out; additional related ones are developed and implemented from what children do and say as they experience the initial ones. Integration, therefore, becomes topical themes related to subthemes and teacher planned and child initiated (i.e., adult unplanned) activities related to and integrated with these subthemes and themes. This integration, which is conducted in flowing, ongoing social context, maximizes first and second language growth and cognitive processes.

At another level, curriculum programming as integration implies "massed" experiences. Massed experiences prime the young LEP child for learning and developing cognitive/language processes and generalizing a concept across many activities and situations. Massed experiences are repeated experiences with the same concept from various perspectives across themes or subject areas. Using the theme of transportation and its subtheme, types of transportation, for example, the initial activity may be simply using familiar miniature replicas of transportation toys (e.g., car, trailer truck, bus, horse, spaceship) and naming them. After this initial activity, integration might proceed by identifying the colors of the transportation (i.e., reading readiness), then classifying the items by color (i.e., mathematics) and drawing them (i.e., art). Additionally, the children might do finger play or other games associating language with physical actions representing each of the transportation types (i.e., physical movement). The children might also talk about the sounds that each makes, similarities and differences between the sounds and the social functions that each transportation type performs for individuals (i.e., science). Finally, the children might develop safety rules for using each of the transportation vehicles and employ the safety rules and vehicles as a basis for dramatic play (i.e., social studies and health). Through massed experiences spread over several weeks, the children develop and expand their concept of types of transportation from many perspectives: naming/labeling, identifying colors, classifying and drawing them, representing the actions and movements of the transportation types and dramatizing rules for safe use of transportation. All of these integrated activities focus on a concept and, from diverse perspectives, anchor it conceptually and meaningfully in social and whole language contexts rather than in rote, isolated fashion. Massed experiences, as integration, facilitate language and cognitive processing of native and English languages of young children (see related research reviews by Lane and Bergen, 1988., Stahl and Miller, 1989).

In addition to integration, another implication for curriculum programming is design of curricula in the classroom program. Cognitive developmental programs for young LEP children (e.g., High Scope, Title VII Project P.I.A.G.E.T.) usually employ a curricular format or design that includes developmental knowledge areas: physical, logicomathematical, social and representational knowledge (see Furth, 1960., Furth & Wachs, 1975., Peters, et al., 1985., for detailed explanations of these knowledge areas). Briefly, physical knowledge is feedback from objects in the children's environment (e.g., cold ice, sour lemon); logicomathematical knowledge is the children's mental development of relationships between objects (e.g., classifying, counting, seriating). Social knowledge is feedback from individuals (e.g., parents, teachers, significant others, peers). Representational knowledge is the children's structuring of the three knowledge areas representing their understanding (e.g., building a garage from blocks to represent a service station). From Peters, et al. (1985), other examples are:

1. mixing paints to make the color purple (physical knowledge);
2. finding and matching purple objects in the environment (logicomathematical);
3. identifying feelings associates with the color purple (social); and
4. putting on a purple robe used by a favorite king or queen and enacting a fantasy story about that favorite character (representational).

Knowledge areas are the experiential threads of integration for experiences and activities and become the cornerstones for curricular formatting and design. In application, schools and classrooms for young children might designate large time blocks as social knowledge (e.g., language activity time), logicomathematical (e.g., number activity time) and so forth. Then, too, classroom programs may show curricular formatting as large time blocks of free and guided play periods with the knowledge areas linking the various integrated activities with the knowledge areas within and across these periods. Finally, cognitively oriented curricula might consist of various subject matter time blocks (e.g., mathematics, reading) within which are the knowledge areas or activities representing the knowledge areas. Regardless of their applied uses, knowledge areas are critical implications in the curricular design of cognitive developmental programs at school and classroom levels.

Teaching

Cognitive developmental theory and research provide several implications for teaching young children: discovery teaching, concrete objects and interaction. Within a cognitive developmental approach, cognitive/language concepts develop and evolve with the child's attempts at problem solving through meaningful experiences, activities and understandings. For application, problem solving in young child and classroom settings implies the teacher's use of discovery methods of teaching. These forms include free, prompted and discovery. For free discovery, the teacher permits children to choose materials and activities that they want to do. They follow their own self-needs and self-interests and provide their own direction. In prompted discovery, the teachers provide specific materials and activities for developing and expanding particular concepts in integrated fashion. In this prepared environment, children explore and manipulate, for example mixing colors and weighing blocks with a balance beam. Teachers may guide the children in their use of materials. In directed discovery, the teacher purposely guides the children to concentrate on particular aspects of materials, activities or situations. By using questions, entering the activity and coplaying or posing problems, the teacher guides and diagnoses for cognitive/language growth. Cognitive developmental theory also implies more structured teacher involvement; this is described in detail elsewhere (Sigel & Cocking, 1977).

Another implication is the nature of the learner. Cognitive developmentalists view the learning child as active, and implications follow about physical and mental activity. Physical actions such as rolling, pushing, pounding and other fine, gross and body movements are primary and used with objects. In turn, mental actions are constructed as the child uses physical actions on objects. Accordingly, experiences and activities provide opportunities for children to use physical actions and objects and to observe, probe, observe and question to develop mental concepts.

An additional implication for teaching young LEP children is the need for interaction between individuals to develop cognitive/language concepts. Interpersonal interactions are between adult and child and child and child. Adult-child interaction, in context, stresses respect, feelings of self-worth, and well being and supports children's decision making, problem solving, positive self-image and task completion. Peer-peer interaction in which children talk as they use objects and in which they dramatize people, objects and situations, contributes to reducing egocentricism and centration and fosters cognitive/language concepts because (1) "it forces children to realize that everyone does not see things in the same way as they do;" and (2) "it forces a reorganization of knowledge on the part of preschoolers so that they can communicate effectively with others." Asking questions, talking about discrepancies between believed and actual situations and experimenting and exploring to find solutions are part of peer-peer interactions in which thought and language concepts evolve and expand. Promoting peer-peer interaction is a critical implication in planning and implementing early education programs for young LEP children (Peters, et al., 1985).

Learning Materials

Major theoretical principles of direct experiences with physical and social environments, equilibration and results of research studies (Piaget, 1974, 1973, 1954) provide key implications of the selection and use of material with young LEP children. Consistent with these principles and results, cognitive developmentalists recognize four types or groupings of learning materials critical to facilitating the language and cognitive processes of the young LEP children (Yawkey and Trostle., 1982., Johnson, Christie, & Yawkey, 1987): instructional, real, toy and constructional. Each type provides feedback and, in a sense, "talks back" or "responds" to young LEPs as they use them.

Built by manufacturers to teach specific skills and concepts, instructional materials stress convergent learning and provide feedback that tells children they have mastered the concept or need more practice. Most often, the skills and concepts embedded within this type of material are from the three Rs of reading, 'riting and 'rithmetic and other subject areas of science, social studies, art and music (Yawkey and Trostle, 1982). Some examples of these materials include puzzles, dittos, computers, pegboards, stringing and nesting sets, templates, alphabet and number games. Several examples of skills are matching letters and numbers, developing part to whole relationships, recognizing shapes, animals and other objects, and distinguishing upper and lower case letters (Yawkey and Trostle, 1982).

Real learning materials are made for adult uses and serve particular needs. Some of them become useful, meaningful learning materials for children because of their interest in the adult world. Divergent learning opportunities and feedback allow young LEPs to explore these materials and use them as they choose. Several examples of these adult materials that readily, easily service language and cognitive processes include sand, cardboard boxes, adult clothing, water, food and clay media (Yawkey and Trostle, 1982). Learning arises from using and interacting with these materials.

Toy objects are the most numerous of children's materials and are found in classroom and home. Toy materials are child-sized miniature replicas of people, animals and objects and fall into several categories: housekeeping, transportation and animal/people (Yawkey & Trostle, 1982). Housekeeping materials represent objects and situations in home settings and include dolls, doll accessories, tables, chairs, pots, pans and so forth. Transportation materials include trucks, cars, space vehicles, wagons, trains and others. Miniature animal/people materials represent soldiers, astronauts, TV characters, zoo, forest and farm animals and so forth.

Construction learning materials are manufactured for multiple uses and divergent responses. Similar to real objects, constructional items provide feedback through exploration and use and "do not have a specific purpose or function" (Yawkey & Trostle, 1982, p. 87). Several examples of constructional materials are parquetry and building blocks, legos, tinkertoys, video games, dominoes, prints, arts and crafts media.

From a cognitive-developmental world view, understanding the four types of learning materials and selecting representatives from each of these types for classroom use are paramount. Selection based on these types provides variability in classroom materials and maximizes opportunities for children's choices, decision making, and problem solving. In addition, varied selection supports integration and teaching practices, and these four types can be used with any of the forms of discovery and more directed teaching. Taken together, these four types provide children with high variability, novelty, and complexity — all of which are necessary for language and cognitive growth of young LEP children. For detailed examples of how these types of materials are used in discovery activities for young LEP children, see Trostle and Yawkey (1990).

In sum, the cognitive-developmental world view has potential for the development of young LEP children based on its theoretical bases, research studies and implication for practice.

Maturational/Linguistic Implications

The review of the research on language acquisition and second language learning presents three theories, the Monitor model, the Interlanguage theory, and the Acculturation theory, which are commonly used to explain the process in which young children with limited English proficiency acquire a second language. The Acculturation theory explains the relation between adjustment to the environment and the development of a second language in young children.

The Acculturation theory shifts from the mechanisms of learning a language to the analysis of the context in which the young learner develops a second language. Schumann (1978) brings forth the relationship between social psychological acculturation and the degree of success in the development of a second language. Labov (1966) views language as a dynamic process whereby the learner changes, adds and subtracts words to her/his repertoire as adjustment to the new environment takes place. Labov refers to this phenomenon as the development of an interlanguage. The framework of the Acculturation theory is inductive in nature. The assumption that guides this theory is based on a body of knowledge about Creole languages. The processes under study involve modification in attitudes, knowledge and behavior (Linton, 1963). The modifications were seen to require elements of the young child's cultural background. In addition, it has been noticed that as the young child introjects portions of the new language and culture, there is a decrease in the native language and culture (Prewitt Diaz, 1987).

Prewitt Diaz (1990) suggests that the overall process of second language development demands that acculturation occur in the young child. The process of acculturation requires cultural and psychological adaptation. In effect, the young child needs to learn the appropriate linguistic habits to function within a language group. Acculturation has to take place in the young child prior to the development of the second language. Schumann (1978) indicates that second language acquisition is just one aspect of acculturation. The degree to which the young child acculturates to the target-language group, will control the degree to which the young child acquires the second language. Schumann indicates that second language development is determined by the degree of social and psychological proximity of the young child to the target-language culture. Schumann (1978) defines social and psychological distance between the young child and the target language. Social distance refers to the young child as a member of a social group that is in contact with the target-language group. The relationship between the two groups will determine the level of second language development. Schumann (1978) defines psychological distance as the result of affective factors that concern the young child as these factors relate to the target-language group. These factors may include culture shock, instrumental motivation and language shock. From this discussion the reader can infer that the more social and psychological distance that exists between the young child and the target-language group, the greater the difficulties in developing the second language. The converse is also true; the greater the level of acculturation, the faster the second language will be developed by the young child. Schumann (1978) indicates that the level of contact between the young learner and the target-language group will determine the degree and speed of acculturation and, thus, of second language development.

The Acculturation theory accounts for the time and amount of language development that the young learner will develop. Attitude toward the target language, motivation to learn and social proximity are considered important factors in the development of second language in young children (Giles and Byrne, 1982). The dynamic nature of the Acculturation theory has been used recently to explain the process of second language development in young children. There is a need to explore further the relationship between acculturation and the motivation and attitude toward learning a second language.

While the work of Labov advances some preliminary findings, it is worth noting that some recent research has begun to support the Acculturation theory. From the perspective of comparative linguistic and bilingual transference, Herbert (1990) reports some interesting results from the Freemont (CA) Unified School District's Title VII, Academic Excellence Project SLICE (Systematic Linking and Integrating of Curricula for Excellence). Cross-sectional and longitudinal results suggest that this model of comparative linguistic and bilingual transference appears to enhance the young child's academic abilities in English reading, language, mathematics and related areas.

The discussion of Krashen (1982, 1985), McLaughlin (1988) and Williams and Snipper (1990) above suggests several implications for the teaching of a second language to a young child.

Curriculum Planning

The LEAs (local education agency) are encouraged to begin to provide programs for young learners that will foster the young learners' interest in learning the second language. Resources may be obtained from federal, state or local governments. Programs should involve parents when possible. The educational establishment is encouraged to look at the family as an educational unit. The meaning of the family as an educational unit is that the role of the teacher changes. The teacher becomes an instructional facilitator that will assist the family in the acculturation process. The classroom teacher is encouraged to develop a curriculum that will involve the young child with a limited English proficiency in activities that will enhance the exploration of the environment. The curriculum should be developed in such form that the child may explore a number of new parts of the environment. The focus of learning should be concept development irrespective of the language in which the concept is learned. English language development will be achieved as the student feels more comfortable with the new environment. The curriculum should provide for motivation and access to the new world in which the young child is becoming a part.

Staff development

The schools may want to assist teachers through staff development activities to learn the existing theories of second language development. In addition, the opportunity for material development should be provided so that the teacher is familiarized with specific activities that need to be emphasized during the period of second language development. Teachers are encouraged to participate in staff development activities sponsored by the professional organization, by an IHE (institution of higher education) or the state education agency. The important point is that the teacher become aware of the changing needs of the population of the United States. The educational needs of the young learners should be focused. The teacher is also encouraged to become knowledgeable about the social psychological needs of young children. The teacher then may assist the young child to develop a positive attitude toward second language learning.

Materials Development

The development of local materials is encouraged. The materials should be based on the current theories of language development and must include the specific language groups represented by the student population. The level of cognitive development and social adjustment of the young child should be considered in the development of materials that will foster reading/writing skills. The third issue to consider is the context (level of literacy) in which materials are prepared.

The National Head Start Program has developed a wealth of materials that have been tested over time to be helpful in preparing young learners to enter the schools. Adaptation of such materials is encouraged at the local level to serve the educational needs of these children. The acculturation of young learners is of such importance that the development and use of materials in the native language and subsequent transfer to the second language encouraged. Materials should focus on language learning as part of the acculturation process of the young child. There are three perspectives (Saville-Troike, 1985) that must be integrated in materials that are developed for young children with limited English proficiency. The first perspective is that language is part of culture and thus part of a body of knowledge, attitudes and skills which is transferred from one generation to the next. Lastly, language is a primary medium through which other aspects of culture are transmitted.

ISSUES AND RECOMMENDATIONS FOR FURTHER RESEARCH

From early childhood theories, research studies and implications for practitioners and school administrators, there are a number of relevant issues and recommendations that arise for further research. Across cognitive-developmental and maturational/linguistic world views, major issues and recommendations are identified and explained with a focus on the young LEP child.

Research Issues

The major research issues are listed and explained below:

1. In order to maximize the potential of the young LEP child, there should be continuity between the early childhood bilingual program and the child's home.

2. Process approaches appear successful in developing bilingualism in the young LEP child, but these approaches may not be as facilitative for this child beyond the preoperational level of cognitive and language development.

3. The program models based on the world views of child development should represent native languages and cultural customs of the LEP children enrolled in the program.

4. There may be other factors related to the cognitive/language growth of young LEP children that may be salient to bilingualism—e.g., classroom physical environment, learning styles, motivational patterns, self-concept (Garcia, 1986).

5. Building and facilitating certain types of bilingual competencies in young LEP children might be a basis for using specific kinds of instructional and evaluational programs.

6. Integrating various aspects of two or more developmental frameworks might facilitate and maximize the cognitive/language growth of the young LEP child.

7. Model teacher training programs should be developed that focus specifically on second language acquisition in the young child.

8. Research on second language development should continue. Specifically there is a need to understand the influence of the social/psychological development of the young child on the development of a second language.

9. The effects of migratory movements on the language development of young children should be explored further, and new instructional strategies should be implemented to address the specific learning needs of this population.

10. Local education strategies based on the theories discussed above should be explored in order to enhance the language and cognitive growth of the young child.

11. There is a need to develop valid and reliable instruments based on local curricula that measure the achievement of the young child in language development and reading in the target language. Individual observations should be performed on each child to determine the level of growth in and functional application of the second language.

12. Intervention strategies that are pertinent to each level of language development as proposed by Krashen (1982, 1985) should be developed and implemented locally to serve the diverse language groups.

Research Recommendations

Several research recommendations follow:

1. What are the short-range and longitudinal outcomes of the various developmental models on the young LEP child's bilingualism?

2. Within cognitive-developmental or maturational/linguistic programs, how do processes of expressive and receptive languages complement each other?

3. How are the effects of bilingualism similar or different relative to the young LEP child's cognitive/language, motivational or academic growth?

4. How can the benefits and values of cultures be identified and examined so understanding of these values and benefits encourages and supports bilingualism?

5. What are the most effective methods for using bilingual parents to increase bilingualism in classroom programs with young children?

6. Which forms of discovery teaching best maximize bilingual development of young LEP children?

7. Should local schools integrate activities of second language development in all the subjects?

8. Should a career ladder be initiated to train aides, paraprofessionals and other support staff in the process of facilitating the second language development in the young child?

9. Should local institutions of higher education be involved in assisting the local schools in developing instructional methodologies, materials and assessment instruments that facilitate the process of acquiring the target language?

SUMMARY

The world views of cognitive-developmental and maturational/linguistic theories and supporting research studies form frameworks for viewing young children and for drawing implications which govern the work of practitioners and administrators work with young LEP children.

From cognitive-developmental points of view and research perspectives, primary impact is given to critical components (e.g., structure), factors facilitating intellectual/language capacities (e.g., direct experience with the social environment) and stages underlying developmental benchmark characteristics (e.g., preoperational stage). For these critical components, factors and stages applied cognitive-developmentalist have specific implications for curricular programming and teaching the young LEP child. Issues for further study include researching continuity parameters to maximize the best match between bilingual program and the young LEP child's home environment with its "hidden/implicit curricula." Recommendations for further research, for example, suggest empirically examining short-term and longitudinal impacts of the cognitive-developmental perspectives on the young LEP child's cognitive/language structures and contrasting these impacts across different world views.

The maturational/linguistic perspective presents several theories. These theories set the basic groundwork for development of programs in the local schools. Implications are provided in areas such as the development of curricula, instructional materials and teacher training. The issues for further study include staff development and the formulation of curricula which are congruent with the young child's level of development in the second language. The section suggests that further consideration should be given to studies of the effects of sociopsychological factors in the acquisition of a second language.

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ASSESSMENT OF LANGUAGE MINORITY STUDENTS POLITICAL, TECHNICAL, PRACTICAL AND MORAL IMPERATIVES

Ed De Avila

INTRODUCTION

Language proficiency testing of students from non-English speaking backgrounds has, in the past fifteen years since the 1974 Lau v. Nichols Supreme Court decision, undergone considerable change, sparked enormous debate and created the need to re-examine our approach to language testing in general.

Identification, Placement, Treatment and Reclassification

The process of identifying children as eligible for special language services, placing them in programs, providing services and finally reassigning them to mainstream classrooms derives from several different sources including federal and state law and has been referred to in various ways. The term "entry/exit criteria" has been used to describe the assessment process used in identification, classification, and reclassification. The term "reclassification" refers to the process of relabeling, with the possibility of return to a "mainstream" or "all-English" classroom. Thus, for example, a student initially identified as "Limited English Proficient" (LEP) may be "reclassified" as "Fluent English Proficient" (FEP). However controversial or diverse the approach, the fact remains that assessment (both formal and informal) of language proficiency is found at every step.

Some Common Underlying Problems

Several aspects underlying the process of identification, placement, treatment and reassignment have been particularly problematic. First, definitions driving the process have not been very clear or consistent. Second, there has been a shortage of appropriate assessment devices which are both psychometrically and linguistically sound. Third, perhaps because of these two problems, testable or viable decision making models consistent with the need to serve children who do not understand the language of the schools have not been forthcoming.

A major difficulty in the development of entry/exit assessment models and instruments stems from the fact that the lay theory underlying the concept of language proficiency has not been particularly well defined. While a number of recent shifts have occurred in our views regarding language proficiency testing (O'Malley,1989), our understanding of language proficiency as a scientific construct has not been fully operationalized.

It is well known in scientific investigation that if the elements of a given phenomenon are not separately defined, it becomes difficult to operationalize the phenomenon as a whole, to understand the relative importance of its elements and to use the results of scientific investigation in a constructive fashion.

In this regard, current legislative definitions of language proficiency based on an oral proficiency/academic achievement sequence may confuse effect with cause and have contributed to the current state of affairs. Oral proficiency results from the continuous interaction of child and linguistic environment. It is the result of both nonformal and formal instruction. Academic achievement, on the other hand, results from an organized presentation of material normally imparted, often orally, by somebody trained to do so. Howard (1983, p. 257) describes this distinction in terms of "explicit and implicit" acquisition and knowledge of rules.

Oral language proficiency may be seen as providing the necessary (although not sufficient) conditions for the development of literacy skills. The notion that oral skills are an integral part of the development of literacy was a guiding force in the lay theory used in the Lau vs. Nichols decision, which provided the impetus for testing students from homes where English is not the primary language. In this connection, however, De Avila and others (1978) pointed out that "many second and third generation language minority groups demonstrate 'survival English' — that is, they score as English fluent on many language screening tests but perform poorly on achievement tests." More directly, De Avila and others stated, "Not all children fluent in English achieve at the norm." Finally, in a large study involving nine different language minority groups, De Avila and Duncan (1982) concluded that while oral "language (proficiency) in and of itself is not a sufficient condition for thinking (as defined by intellectual development) it does seem to be critical for school achievement."

De Avila (1987) has argued that "while oral language proficiency seems to be a necessary condition for success in the mainstream, it is no guarantee." Similarly, Cummins (1984) argued that assessment of simple communicative skill on the assumption of educational sufficiency is misguided. De George (1988) has even more recently commented that "the notion that language skills (oral) alone may not be sufficient for a student to acquire content-area knowledge has caused considerable rethinking among administrators and teachers about assessment procedures as they exist today." Finally, the need to reconsider our approach to the problem has been echoed by O'Malley (1989), who called for an "attendant shift from identifying isolated language skills to gaining a broader understanding of a student's ability to convey meaningful utterances through speech and writing." Davies (1959) implied much the same thing over thirty years ago when he outlined the advantages and disadvantages of "integrative" and "discreet-point" testing.

Unfortunately, however, legislative interpretations of lay theory have often failed to include the distinction between necessary and sufficient conditions. In efforts to comply with federal, state and local requirements for identification, placement and reclassification, districts have been left to their own devices in the selection of instruments and procedures for combining reading and writing and listening and speaking scores to make placement decisions. This has led to a wide diversity of approaches some of which unknowingly create more problems than they solve. Many districts, for example, use currently available, standardized norm-referenced tests of school achievement to fulfill federal and state requirements for assessment of reading and writing. Some have gone so far as to use an oral language proficiency tests to assess academic achievement (See EAC-WEST Newsletter, vol. 3, no. 1). There are also a number of districts or states that exempt LEP students from any form of achievement testing. On the one hand, the use of nationally norm-referenced tests of academic performance carries a number of problems. On the other hand, failure to conduct any assessment at all is also problematic. More will be said of this later.

Both informal and formal techniques are used for the assessment of oral proficiency. Informal procedures consist primarily of interviews and/or rating scales based on observations by the teacher or some other person. Formal techniques include more direct testing of specific language skills, abilities and behaviors within a standardized environment. My own view is that the distinctions between informal and formal procedures have more to do with issues and differences in practice than with differences in substance. In other words, observational techniques, rating scales and the like are subject (or should be) to the same rigors (psychometric considerations) as any formal test. The fact that a process is informal in no way relieves it of its scientific burdens. Without establishing both validity and reliability, rating scales are little more than self-serving arguments for face validity.

Problems with Informal Approaches

A number of writers have argued, perhaps wisely, that standardized approaches to the assessment of language proficiency should (must) "be accompanied by teachers' own judgments and observation data" (Canales, 1990). Unfortunately, however, we are left to our own devices on how to combine these data, and arguments for the use of informal procedures and multidimensional indicators have not been systematically implemented. The question becomes how do you make both informal and formal procedures work together systematically to everybody's satisfaction?

Hige and Coladarci (1989) reviewed sixteen published articles on the relation between teacher ratings of student academic performance and performance on standardized tests. According to these writers, the correlations between the student ratings and test scores ranged from .22 to .92 with a median of .66. The authors interpret these coefficients as moderate to strong and contend that there is sufficient reason to re-evaluate their use in research and instructional decision making.

The danger in this type of study is twofold. First, authors tend to overinterpret correlational data. A correlation coefficient does not a finding make. In other words, there is a good deal more to the establishment of validity than a single correlation coefficient. A median correlation of .66 is not particularly strong. It suggests that, on the average, we can expect to find that teacher judgment accounts for only forty-three percent (the square of .66) of the total achievement test variance. Given the importance of placement decisions, it would be dangerous to conclude that teacher ratings should totally replace formal assessment. Second, the article by Hige and Coldarci leaves the impression, perhaps unintended, that their findings can be applied to the rating of language proficiency. It is important to recognize that the studies reviewed in the article refer to academic achievement and not to language proficiency. The same criticism has been applied to studies by Ulibarri et al. (1981), Mace-Matluck, Dominquez and Turner (1979) and Jackson (1980). De Avila (1984) found that teacher ratings of language proficiency were influenced by a number of factors such as the teacher's language background, attitudes toward bilingual and language minority programs and so on.

Given the present context in which test scores (or teacher observation ratings/scores) are used for placement, the use of correlations to establish "validity" is probably inappropriate. Correlations are measures of association not measures of agreement. The issue is one of agreement between two methods of identification, not one of association or pattern as is represented in a correlation coefficient. A more appropriate statistic would be something like Kendall's Coefficient of Concordance or a simple Chi-Square test (see Kerlinger, 1973, pp. 290-293). Although correlations are useful and interesting, they can sometimes be misleading.

Finally, there is nothing inherently right or wrong with using a teacher's judgment of language proficiency. Aside from costs and other logistic issues, the problems are in demonstrating standardization, reliability and validity and the possible placing of teachers into a conflict of interest should test results in any way affect their employment status. See Gruein and Maier (1983) for more detailed discussion on the uses of nonformal assessment techniques.

Problems with Formal Approaches

When De Avila and Duncan (1976) reviewed the available oral language tests in 1976, they found great diversity. Tests reflected a wide variety of purpose, content, approach, method, standardization, validation and utility. In fact, De Avila and Duncan had originally intended to review the psychometric properties of available tests. However, they found such diversity as to make comparisons almost impossible. A number of issues that surfaced in 1976 are still with us and apparently require further discussion. As will be seen, this discussion necessarily leads to a general consideration of the concept of measurement as applied to language testing.

The most pervasive problem discussed by De Avila and Duncan had to do with definitions resulting from the differences in perspective between legislative and scientific points of view. The problem of how to define "limited English proficiency" is as much an issue today as it was then. In an attempt to provide policy direction for schools faced with the education of large numbers of language minority students, the U.S. Office of Civil Rights prepared a set of administrative guidelines known as the "Lau Remedies," which were circulated throughout the United States to assist districts in determining the linguistic proficiency of language minority students (Crawford, 1989).

The problem was, as we argued in 1976, that the linguistic categories referred to in the OCR document bore "no resemblance to operational definitions found in the sciences... "What this means, unfortunately, from the point of view of a researcher, is that there is no clear way of deciding how these categories apply to actual behavior. . . ." (De Avila & Duncan, 1976). Furthermore, the Lau Remedies offered no discussion on how to combine reading and writing assessment results with oral results in order to assess language proficiency fully, and for a number of years their assessment has been largely ignored. In other words, the Lau Remedies offered no clear way to operationalize the construct of language proficiency through tests. We maintained then, as we do now, that attempts to develop tests on the basis of judicial and/or legislative recommendations, without consideration of technical issues, were bound for controversy at best and outright failure at worst. History seems to have borne us out as many of the tests developed specifically from the Lau categories have dropped from use.

De Avila & Duncan's review concluded that:

1. Different tests measured different aspects of language (i.e., phonological, lexical, syntactic or pragmatic).

2. Tests were inconsistent in the way they were developed, validated, normed or used.

3. Few tests were based on clear explicit theory regarding either purpose or method.

4. Many tests were based on default definitions or theories of language development that rendered measurement virtually meaningless or impossible.

In 1976 little more could be done than to list available tests according to what the test developers claimed to be measuring. However, this led to the use of a set of nominal (descriptive) categories that was itself problematic. Listing tests according to what developers and publishers claimed to be measuring uncovered a second major definitional problem. Of the then available tests (forty-six were reviewed), fifteen were classified as (or claimed by the publisher to be) "language dominance" tests; twenty-three were "language proficiency" tests; and seven claimed to measure both "dominance" and "proficiency."

In searching for clarification of the terms "dominance" and "proficiency," De Avila and Duncan found little in the literature to make the distinctions between them clear. On the one hand, they found a great deal of discussion on the concept of language proficiency. On the other hand, they reviewed over forty major texts and research references and found virtually no mention of the concept of language dominance. In other words, there was little discussion to be found in the research or theoretical literatures to defend the term as it was being used in practice.

It is noteworthy that the vagueness of the categories listed by the Lau Remedies and the confusion over dominance versus proficiency led to attempts to define and to place students in or out of programs without regard for their actual ability to speak English or the home language (Dulay and Burt, 1980). Dulay and Burt contended that identification and placement could be made primarily on the basis of "language dominance" or the stronger language. Barnes (1979) went even further and used a Language Dominance Index to show that the number of language minority students in need of help was less than a third of that reported by O'Malley (1978).

In more recent discussions of the process of identifying students one continues to find reference to the idea of "language dominance." One state department of education refers directly to a determination of language dominance as the second step in the process of student classification and placement. These points regarding the problems that surround the identification process could not be made more clearly than in the recent Chapter I Rules and Regulations, in which Chapter 1 applicants are admonished to identify eligible students by using factors such as teacher evaluation of student performance, language dominance tests in combination with other indicators that may be used separately, as a composite score or as a composite with weighing to select children on a basis other than English language deficiency (Rayford, et al., 1990).

Attempts to clarify the Chapter 1 Regulations (see Rayford et al.) seem, unfortunately, equally misdirected in that the recommended models continue to be based on the presumption that a test of dominance produces a clearcut dichotomy between the home language and English. This has the effect of leaving the second and third generation child (e.g., the "pocho" or "Spanglish" speaker) most at risk since test scores show many of these students to be limited in both the home language and English. According to De Avila & Duncan, while a test of language dominance may be a convenient way to satisfy the legal demands of Lau (or a quick way to meet Chapter 1 rules), it tells us nothing about the specific needs of an individual child. A student who ranks in the seventy-ninth percentile in English and the sixty-fifth percentile in Spanish is easily classified as English dominance. The real truth is that the child may have problems in both languages. The failure to distinguish between dominance and proficiency has been pervasive, particularly in research on both the effectiveness of bilingual education (Baker & De Kanter, 1973; Danoff, 1977; Rosell, 1989; Willig, 1985) as well as on the cognitive effects of bilingualism (De Avila, 1987).

The problems with both the original Lau categories and the concept of language dominance should be obvious. The former lacked adequate definition/operationalization whereas the latter lacks a normative base on which to make comparisons. Unfortunately, much of the original thinking that went into the formulation of both the categories and the idea that languages were at war and that one would dominate the other, is still with us. This point will become even clearer in the following discussion.

There is certainly a need to appreciate the relative strength of the child's home language relative to English (De Avila & Duncan, 1980). The primary weakness in a "dominance" interpretation, however, is its lack of a normative base. In other words, it is important to consider the child's proficiency in the home language relative to English as well as the strength of both in relation to proficient speakers of each language. In more technical terms, there is a need to consider language proficiency both within (the individual student) and between students (the individual student and other students) as discussed in classical analyses of variance designs (see Kerlinger, 1973).

What De Avila and Duncan concluded in their 1976 review was that the concept of "language dominance" was driven more by socio-political education concerns and a desire for a quick way to categorize students as either English or home language dominate than by either linguistic or understanding of student education needs.

In his recent review of current trends in language proficiency testing, O'Malley has listed four major problems with most tests. O'Malley's list bears great similarity to the concerns voiced by De Avila and Duncan over ten years previously. It would appear that change is slow. O'Malleys criticism of current tests falls into two broad categories. The first has to do with the question of test content. O'Malley argues, like many others, that there is a need to test more than simple oral/aural proficiency. He goes somewhat beyond others in arguing that, in addition to the assessment of the four language skills (listening, speaking, reading and writing), testing should include information on the content areas as they affect reclassification decisions. On one hand, I'm not sure about including content area assessment as it may confound antecedent (limited proficiency) with consequent (academic achievement). On the other hand, along with the Supreme Court and most state departments of education, I certainly agree with the need to assess the four skill areas. The need to assess all four skill areas has always been with us. We just haven't attended to it. The failure to include measures of reading and writing stems from two problems. First, there has been a dearth of appropriate tests, and second, we have had few viable (empirically defensible) decision making models for combining the results of the four seemingly different tests or measures. More discussion of this issue follows in a later section.

O'Malley's second level of concern has to do with more technical aspects of test construction and general issues of measurement than with the concept of language proficiency per se.

He notes the following:

> Having a single form of the instrument fails to reflect the need for the repeated pre-post assessment of students in order to determine growth, as is necessary for program evaluation or for monitoring student progress.

O'Malley's issue here is one of parallel forms. In order to avoid the learning effects resulting from repeated administrations of the same test, publishers produce several versions of the same test. It is not the case, as O'Malley implies, that none of the currently available tests has parallel versions. Nonetheless, the sense of his argument rings true. There is certainly a need for parallel versions of any test used repeatedly over time. Others, however, argue by default (based on practice rather explicit argument or theory) that language proficiency tests are used for identification and entry only and to use them across time or in evaluation would be to confound purposes. Thus, according to this position, we would identify with one set of tests and exit with another. The argument is nonsense. Not only is it based on faulty assumptions regarding the purposes for testing, but it leads to a proliferation of testing. Finally, the process of using different measures across time (e.g., one for entry and a different one for exit) leads to inconsistent criteria and presents an impossible task for program evaluation and tracking of student data.

O'Malley's final two points are more complex than they appear and merit a good deal more consideration than afforded in the original discussion. "Using scores on a five point or similarly defined scale does not reflect the full underlying continuum of Language Proficiency." The comment seems almost glib. No single number or set of numbers ever totally captures any naturally occurring phenomenon. The world is far too complex to be reduced to a finite set of numbers. However, we have few alternatives; the use of numbers as on a one-to-five scale is nothing other than an approximation, a pragmatic attempt to apply the fundamental properties of numbers, which are known, in an attempt to reflect reality, which is unknown. To expect more or less from science is sophomoric.

Two other aspects in O'Malley's statement are worth elaborating. The first deals with an implicit or unstated set of notions regarding what should be assessed: that we know and can agree on the exact nature of the "full underlying continuum of Language Proficiency." I'm not so sure we can. The second deals with the more general issue of test scores and their scale values. Both of these concerns are addressed more directly below.

Finally, O'Malley alludes to the problem underlying the concept of language dominance:

> Using scores without normative information leaves projects with no basis for making comparisons relative to other populations or to determine growth.

The real issue is one of comparison and the establishment of base rates or norms. With whom should language minority students be compared? Should it be with students like themselves or should it be with mainstream nonminority students? This is a terribly important issue and tends to be glossed over by test user and publisher alike.

Issues raised by O'Malley are at the heart of test development and the theory of measurement. In the following we have tried to step back and to consider some the above problems in a more abstract manner. Perhaps consideration of some of the underlying issues will lead to a clarification of current limitations and confusions regarding present testing practices. The following is not intended to be a review of tests. Tests will not be listed or commented on by name. I will, however, refer to several reviews and compilations that address various strengths and weaknesses. My purpose is more abstract. Issues and problems will be discussed as they are encountered in conducting research and developing tests. In many instances it was not possible to do more than to point out some of the problems with different approaches. Answers to the question, "What do we do about the problem?" are not always quick in coming.

Testing and the Theory of Measurement

The invariant feature in any approach to language testing is the assignment of numbers to language phenomena. Test scores are based on either the mathematics of classical test theory (see Gullikson, 1950) or on more recent developments in test theory and construction (see Embretson, 1985; Mac Arthur, 1987) or on advances in technology (see Stansfield, 1985; Freedle, 1990). For the present we will focus on tests currently being used by school districts to identify, place and exit. We will further restrict ourselves to tests derived, or claiming to be derived, from classical theory rather than from experimental approaches based on Latent Trait or Rasch models (De Long, 1985) or applications borrowed from artificial intelligence models (Freedle, 1990). It is not our purpose here to review tests per se. There are numerous such reviews, several of which will be mentioned.

Before discussing some of these compilations or lists, I would, however, like to make the point that one of the main reasons the field is in such disarray is that there are few tests that will stand up to a thoroughgoing psychometric analysis. This was true in 1976, and it is true today.

To illustrate: A good number of tests are little more than a haphazard collection of items. Often the items in these tests are selected or taken directly from curricular materials, lists of education objectives or even other tests purporting to measure entirely different constructs. All of this is, of course, done with little or no regard for scale or test properties, let alone linguistic or psychological theory. That these tests should run into psychometric trouble is not surprising. Moreover, developers not trained in either classical or more recent test theory are led to make nonsensical claims.

For example, according to the review of tests listed by ETS, one test manual reports a reliability coefficient (Alpha) of .99. Whoever reported such a figure obviously knows little or nothing about test construction or theory. A reliability of .99 is virtually unheard of, if not impossible. An Alpha of .99 means that interitem correlations are so high as to imply that all items in the test are measuring exactly the same thing. In other words, there is little need for more than one item. A one item test is ridiculous. How the developers of such a test can then claim to be able to categorize students according to six linguistic proficiency types (categories) is incomprehensible. Test development is ostensibly a technical exercise. It is a long and often tedious task involving the integration of a number of different disciplines. But more of this later.

Test Compilations/Reviews

Over the past ten years there have been numerous compilations of tests used for language minority students. For example, in 1974 Ehrlich and Ehrlich; in 1976 the Texas Education Agency; and in 1976 Silverman, Noa and Russell compiled a list of several hundred tests. A similar list was compiled by Pletcher and others in 1978. Since then, similar lists have been developed that focus more on the tests most commonly used in the field. The Test Information Center at the Educational Testing Service, for example, has developed a table describing the characteristics of oral English language proficiency including thirteen of the most popular tests. The ETS document includes technical information on the tests, usage, skills assessed, types of scores and scales produced by them.

Similarly, there has been no shortage of discussion of the strengths and weaknesses of tests. A good many states prepare and distribute test evaluations. California and Texas are among the leaders in this effort. The reviews by Anderson and others (1989) and RMC (1989) are probably the most comprehensive of the current instruments. Unfortunately, however, most compilations are written from a single point of view and do not include alternative discussion or debate as found in Buros. See also Sweetland and Keyser (1986) for nonevaluative descriptions of a wide variety of tests. It should be pointed out that of all the test compilations, only Buros applies any criteria before tests are reviewed. It is doubtful that very many of the current tests would pass Buros' criteria for inclusion or review.

In addition to test compilations and reviews, various states have developed formal criteria for identification, placement and reclassification as well as for the evaluation and use of specific language tests. De George (1988) provides an excellent summary of most of the currently used procedures. For the most part they tend to be quite similar.

Virtually all states that have formalized processes use the same basic procedure. Language minority students are first screened though the use of a home language survey. Those indicating the use of a home language other than English are then tested with one of the state approved tests to determine the extent to which the student is a non, limited or fluent speaker of English. Depending on the level of English proficiency, some students are then tested to determine the extent of proficiency in the home language. These data are then combined and students are placed in various programs depending on need. Exit or reclassification is triggered in various ways from teacher judgment to performance on one or another test to time in the program to parental decision. It is curious that in virtually none of these compilations were we able to find any direct technical information about teacher observations or other informal assessment procedures. While there are a good many references to the advisability of multiple criteria that include informal techniques, the lack of empirical research is astonishing. It would appear that the developers and users of these informal techniques have been forgiven the burden of demonstrating validity and reliability.

It may be of interest to recall the prior comment regarding the need to determine the validity of informal assessment in the same way that formal assessment is determined. In this connection, consider the home language surveys used by most states to determine the initial pool of possible eligible students. A search for references to studies that have examined the validity of such surveys failed to produce any findings. One is left wondering about the validity of asking parents, who are often unclear about their own linguistic habits, to make detailed retrospective judgements about their children's linguistic patterns. While parents are certainly in the best position to know, the use of technically unevaluated questions could well be problematic. Some parents may simply not know how well the child speaks a language that the parents do not speak. Some parents may well be loath to admit the use of a language other than English. Some may be fearful about placing their child in a special program and are confused over the purpose of the survey or fear reprisal from immigration authorities and so on.

Reviews and compilations of current tests for language minority students include only a few references to tests of reading and writing. According to O'Malley (1989) there were only two tests, at the time of his writing, that addressed reading and writing in conjunction with listening and speaking. Actually there are three such tests.

The lack of appropriately developed reading/writing tests has led many districts to employ standardized norm referenced tests (NRTs) such as the CTBS. Others have employed Criterion - Referenced tests. Duncan and De Avila (1988) list four basic problems with using NRTs originally developed for mainstream use:

1. NRTs assess ability across a broad of academic subject matter. Not all of the content assessed by NRTs necessarily fits within the concept of language proficiency. For example, math computation would not fit, whereas word problems would.

2. NRTs are designed to assess academic performance across a broad range of abilities. NRTs sample from the lowest to the highest ability levels. As a result not all items are of equal probability across all levels of ability. There are a few very difficult items intended for the high achiever and a few that are quite easy for the low achieving student. The difficulty (p-value) of most items under ideal circumstances is about .50. From the point of view of classical test theory a p-value of .50 maximizes the information contained in the item.

3. NRTs do not assess oral language proficiency. Moreover they provide no guidelines for how to combine NRT results with oral proficiency test results. Differences in scale, content, format and standardization make such cross-referencing difficult at best.

4. Standardization of test instructions can be a problem. NRTs often make it difficult for language minority students to understand what they are being asked. If students' oral skills are below a certain level, it is doubtful that test instructions will be understood. As a result, it becomes difficult to determine that a child has failed because he or she failed to master the material being assessed or because he or she did not comprehend orally administered test instructions.

In summary, NRTs were not designed with language minority students in mind. As a result their construction is not compatible with the purposes underlying the testing of language proficiency. The fact that they continue to be used in this way is unfortunate. Further, lack of stable assessment results has been used to argue against language minority programs in general. Some have taken a position against the need for special services for language minority students because, "a good many students from mainstream backgrounds score in the Limited English Proficient range." In fact, Baker and Rosell have gone so far as to say that low achievement on the part of language minority students has little to do with language. Oller and Perkins (1978) take the opposite position and argue that language and achievement tests assess the same thing regardless of student characteristics. Finally, still others have taken the position that the NRTs are biased and should not be used with language minority students because of the potentially negative effects of tracking and labeling (see Ulibarri, 1990).

Ulibarri (1990) has discussed the use of NRTs, commenting on the issue of test bias. His review concludes that the research on test bias as opposed to cultural bias has been misdirected and that studies designed to show the bias in testing have shown just the opposite, that "bias against minorities does not exist, or that where bias does exist it is in favor of minority students" (see also Jensen, 1980). Ulibarri's conclusion regarding problems of bias is worth noting. According to him, the reason test bias is often not found is that standard definitions of test bias focus on "over and underestimates" of test scores rather than whether the test are measuring the same construct for all students. The issue for Ulibarri — and I would agree — is one of the validity and fairness of achievement tests, a discussion of which could take us far afield from the present topic (see Fairtest for more discussion regarding the controversy over the use of multiple choice test formats).

Another reaction has been to recognize the potential for unfairness and to avoid assessing achievement at all. Thus, language minority students are not tested; a host of other problems result. For example, if language minority students are participating in a program, failure to test at the onset of the program (pre-test) will tend to elevate pretest scores and make it difficult to show programmatic gain since the baseline data will not have included the students who would probably have stood the greatest chance to show growth. See Quesada (1979) for still other problems created by this seemingly benign strategy.

Finally, test information derived from NRTs often engenders invidious comparisons between the individual student and his or her peers. Worse yet, these group comparisons are made irrespective of what has been learned over the course of the year. Thus, reporting reading level as a national percentile tells the parent (or teacher) precious little about how well the child actually reads, only that she or he reads better of worse that his or her peers. This tends to make parents passive agents in the education enterprise. A more constructive approach would be to design the reporting system in such a way as to suggest what a student needs to work on and how the teacher and/or parent can help.

A number of recent and not so recent surveys suggest that discussion should focus on a limited number of tests and not on testing in general. Numerous surveys show that, over fifteen years, districts have tended to use only a few tests. For example, the Evaluation Assistance Center at the University of New Mexico reports the results of a recent survey in which 416 Title VII projects were asked to provide information regarding district testing procedures. Information from 145 programs found that twenty-eight different tests were being used. More importantly, seventy-six percent of those responding to the survey used one of four tests. Data from other similar surveys would tend to support this finding; approximately eighty percent of the students are tested with one of four tests.

In another survey commissioned by the U.S. Department of Education (OBEMLA), the Special Issues Analyses Center(1989) found that a fairly limited number of tests were being used both to identify and to assess achievement. In fact, many were being used for both purposes. The most striking finding reported, however, was that the most frequently cited instrument used to assess achievement was an "Unspecified Standardized Test."

More than likely these have been criterion referenced tests. It is doubtful that any of these tests would meet even the most modest psychometric standards.

Criterion-referenced tests have been attractive because they represent an attempt to tie assessment to instruction. Hoffmiester (1975) describes the link as follows: "Criterion-Referenced testing can reach its full potential when it is so integrated with the day-by-day functioning of the classroom that it cannot be easily separated out as a testing activity" (p. 77). Test items written for a criterion-referenced test are thus taken almost directly from classroom instruction or a particular instructional program. In fact, in one instance we have been able to document, test items have been directly extracted from the curriculum, artwork and all. The danger is, of course, that instruction may have little to do with achievement in the general sense. Thus, for example, a student may be instructed on a simple vocabulary list consisting of twenty words. Based on a criterion test the student passes fifteen items, which meets criteria set by a panel of "experts." Can it really be said that the student is "English proficient?"

In this example, rather than a test-driven curriculum, we have a curriculum-driven test. Both are problematic. While the former leads to teaching to the test, the latter leads to assessing the curriculum. Both strategies are misplaced. The former is what happens when the importance of NRTs is overemphasized. The latter places an overemphasis on instructional specificity with the result that the student is able to pass the particular criterion reading test but unable to read text different from that used in instruction. In other words, there is a lack of generalizability from the context of instruction to other contexts.

Another related problem, which many seem to be unaware of, has to do with setting criterion levels for deciding that a student has mastered a given topic or domain. There are only two alternatives. Criterion levels can be set according to "expert judgment" or empirically. Ultimately, both approaches are data based. In the case of expert judgment, judges base levels according to their own experience about what can be expected. Thus, "eight out of ten" becomes a reasonable expectation or criterion level. The alternative to setting criterion levels is to collect data or to set levels based on "what the average student can be expected to complete successfully." Both approaches are ultimately data based; the former is based on prior informal experience whereas the latter is based on formal analyses of student performance.

Finally, to the extent that criterion-referenced tests are tied to specific instruction, there are problems of comparability, particularly when it comes to evaluating program effects. Consider, for example, a situation in which there are six different approaches to instruction, each emphasizing a different aspect of language. Each test would be different and, therefore, not directly comparable. In the same way as a curriculum should be generalizable, a test should be sufficiently broad to accommodate differences in instructional approach. Criterion referenced tests, contrary to what seems to be the prevailing belief, are subject to the same constraints and requirements as any other assessment procedure or device. Again, as with informal approaches, many seem to feel that they have been relieved of their scientific burdens.

Research on the Tests

There has been very little research on the general issue of the use of tests with language minorities. Criticism, however, abounds and has been often applied in a somewhat indiscriminate fashion, used politically to argue for the elimination of all testing or for the use of alternatives.

One of the studies most often cited was conducted by Spencer and a number of her colleagues (Ulibarri, Spencer and Rivas, 1981), who compared the results of four different oral language proficiency tests. What these researchers found was that the four tests varied widely as to the numbers of students identified or categorized as non, limited or fluent speakers. Further, based on another set of findings, Merino and Spencer (1983) concluded that "there are substantial reasons to doubt the comparability of these oral language proficiency instruments across languages."

A number of other studies have examined the equivalency of different tests used across different populations. Cabello (1983) states one position rather succinctly: "creating a Spanish language test which is equally comprehensible to Mexican, Puerto Rican and other Hispanics of varying educational and social backgrounds is as difficult as creating a test in English to serve American, English and other English speaking students as well." I would think that there would have to be sufficient overlap between different dialect versions of the same language to justify assessment; how else could they be referred to by the same name? The trick is to design the items to represent the overlap and not the differences. Sharon Duncan and I have spent a number of years trying to deal with exactly this problem (De Avila & Duncan, 1982, p. 125).

A number of writers have taken equivocal findings to conclude that the entire "objective" assessment approach should be abandoned in favor of a more "flexible" approach, including teacher judgment, socio-economic indicators and the like (see Baker, 1982; Rosansky, 1980; Sanchez, 1979). See Jensen (1980) for a thoroughgoing discussion of the logical extension of this argument.

That the four tests used in the Spencer studies failed to produce the same results is not surprising. However, the conclusion that all testing should be eliminated in favor of even more elusive and politically dangerous processes seems foolhardy at best, particularly in light of the absence of any agreed upon criteria (formal or otherwise) for judging the accuracy (validity) of oral language tests. The Spencer studies were studies of convergent validity, which is only one form of validity. Willig's (1985) conclusions are typical of those many have drawn from these studies:

> It is a known fact, however, that language tests in general and tests in particular that are used to determine entry and exit into bilingual programs, have low reliability and low convergent validity. (p. 301)

The tendency to rectify equivocal findings is common. Consider, for example, that two of the three papers cited by Willig in support of her contention were published in 1974 before either the Lau regulations or several of the current tests were published. A fourth citation is an unpublished manuscript and two others were reviews of the same material covered by Willig. In fact, of the seven papers cited, only two actually involved any data collection or analysis (Gilmore & Dickerson, 1985; Ulibarri, Spencer, Rivas, 1981).

There are other types of validity (and reliability) that would seem worth investigating given the questionable validity of some of the tests studied. They include "face," "construct," "convergent," and "predicative." All four are necessary. Some critics seem to be operating on the theory that one bad apple can spoil the entire batch. While it is not my purpose to defend these tests, I would suggest that those critical of them stick a little closer to the data. The lack of validity or reliability of one or more tests has nothing, either logically or technically, to do with other tests although it would certainly lower the convergence or agreement between them. My own bias is to be far more concerned about the predictive validity of a given test and its ability to fit into a systematic procedure that takes advantage of both quantitative and qualitative data rather than whether or not it agrees with another, perhaps poorly constructed test.

There are three fundamental conclusions that can be drawn from these studies. First, the establishment of the validity of oral language proficiency tests will remain equivocal until such time as there is an agreed upon operational definition(s) of language proficiency. We seem to be searching still for agreed upon or acceptable criteria against which to validate the tests. In 1976 there were no agreed upon criteria whatsoever. Second, these and other studies have addressed the question of validity from as widely divergent perspectives as test developers have used to develop them. Politically motivated evaluations of tests are as common as belief or disbelief in the programs that spawned them. Third, there is a good deal of work to be done to develop both informal and formal assessment procedures. In other words, judicial and legislative fiat has created assessment issues that may be insoluble, leaving us with no alternative but to continue muddling through. That we have come this far is quite amazing.

Test Results and the Problem of Scale

The selection of a test involves, at a minimum, a consideration of the content of the test as well as the information produced by it. Test content has been discussed by numerous writers (Oller & Perkins, 1978; De Avila, 1983; Fradd & Tikunoff, 1987; Berko, 1985). Present discussion will focus on the information produced by most currently and widely used tests of language proficiency and not on what should or should not be assessed. As will be seen, the information derived from a test is largely determined by the test developer's approach to test scaling.

With respect to test content it would seem that everybody is right. There seem to be as many important aspects in language as there are people to write tests for them. For example, one criterion-referenced approach employs over 1800 test items to assess the development of proficiency within a particular curriculum. There are other similar examples of criterion-referenced approaches. From my point of view the real question is to determine which constellation of elements (subtests) makes linguistic/educational sense, provides the greatest information (accounts for the greatest variance), and agrees or converges toward common results that are predictive of their criteria. In other words, the choice of test content should be guided by the four types of validity. Tests or subtests failing any of the criteria for validity should be eliminated. For those who have difficulty with this position, I strongly recommend a review of Campbell and Fiske (1959).

The creation or selection of scale type becomes all-important insofar as it determines and limits what can be done with the information produced by the test. There are four kinds of scales in classical measurement theory. Thus, there are only four possible units on which we can base our measurement of things as diverse as the osmotic movement between permeable membranes, the speed of light or phonemic control. The four kinds of scales include nominal, ordinal, ratio and interval. Each has different properties and utility depending on purpose.

Strictly speaking, most language categorizations found in either legislative guidelines or school designations are nominal categories. A nominal category refers to a class of objects, ideas or individuals that have something in common, but have no particular mathematical relationship. Thus, a Ford and a Lexus are both automobiles just as females and males are both human beings. It would be ridiculous to refer to an automobile's having more or less "Fordness" or "automobileness" or a person's having more "human-beingness." A number of currently used language tests employ nominal categories almost exclusively. Data from these measures are useful in counting the numbers of LEP or FEP students but provide little else. Nominal scales are little more than classification systems and are not the products of measurement in the mathematical sense. They are valuable because they are close to the real data; as such, they are high in face validity.

Fundamental to the nominal scale is its lack of a mathematical base. In fact, a nominal scale is actually the product of a classification system more than a system of measurement (see Mc Arthur, 1987). This means that the establishment of formal criteria (numerically based) or cutoff scores is virtually impossible. See Baker (1988) for a detailed discussion of the inadvisability of using language dominance categories in establishing test norms. Categorical distinctions are normally set by test developers, by whatever means they might use, by teacher judgment, best guess or time of year. One limitation of nominal categories is that it is difficult, if not impossible, to track the growth. For example, movement from the low end of one category to the upper end would not show up in an evaluation based on counting the numbers of limited or non speakers. About all that can be done with categorical data is to count the numbers of students in one or another category over time.

The numerical properties of an ordinal scale, on the other hand, enable us to track progress over time in a more precise manner rather than simply counting students in different categories. The failure to track student growth over time has certainly been a shortcoming in language minority education. An ordinal scale is a set of numbers, such as height or weight, ordered by increasing value. Language proficiency, to the extent that it is based on a test made up of increasing values (e.g., 1 to 100), would be an ordinal scale. The usual process creates ordinal scales by simply summing correct responses without regard for item difficulty.

Some approaches to the creation of language categories employ ordinal scales. For example, one test sets cutoff scores or levels based on standard deviation units drawn from the norm group frequency distribution. This is totally acceptable from a psychometric point of view as long as the number of levels is held to a minimum and the standard error of measure is taken into account as placement decisions are made.

Ratio and interval scales refer to the creation of numbers that are derived from other numbers. These derived units of measure are the result of various mathematical transformations. For example, percentile scores are an example of a ratio scale, whereas Normal Curve Equivalents (NCE) are an example of an interval scale. The importance of the interval over the ratio scale in this context refers to the equipotentiality (equal value) of test item scores. Thus, for example, Normal Curve Equivalents are created from percentiles and enable us to perform the mathematical operations necessary for program evaluation because the difference (interval) between any two adjacent scores is the same, whereas adjacent percentile or grade equivalency scores are not necessarily of the same value. "The interval and ratio scales are by far the most useful measurement scales employed in science" (Torgeson, 1958). They enable us to go beyond simple summing of correct answers. We can introduce greater complexity to scores by means of standard mathematical transformations. Dividing subscale scores by the total number of items in the subscale in order to make subscales with different numbers of items comparable is an example of a simple transformation. Creation of most standardized scores is based on similar ratio scales. For example, the creation of Normal Curve Equivalents from percentiles produces an equal interval scale. The advantage of NCEs over other scales is that their mathematical properties are thoroughly known and far more amenable to sophisticated analyses than other scales. This means that data can be subjected to rigorous analyses without violation of mathematical assumptions. The question becomes what kind of transformations can be made (which add information or under-standing) without loss of the original empirical information.

The way in which data are reported is critical to fulfilling informational need at different levels within the administrative/instructional hierarchy. Not all of metrics are universally useful. In some cases they are even misleading. For example, a number of currently popular tests report results in percentile scores. Percentile scores are derived from the frequency distribution of scores generated from norm group data. The rank of each score is computed as a function of the percentage of students who received a particular score. Thus, percentile rank scores represent the value position of each score relative to any other score in the obtained frequency distribution of scores from the norm group. Percentile scores have long been criticized for not having equal intervals. Tallmadge and Wood (n.d.) argue that, although percentiles satisfy the need for a common index, "they should not be used in arithmetic computation" as would be necessary for pre/post comparisons. Instead, Tallmadge and Wood argue that the "NCE metric is an equal interval scale" and, therefore, can be legitimately used in arithmetic computations such as those needed for determining pre/post gains.

NCEs divide the area under a normal curve into ninety-nine equal parts (eleven points per stanine). NCEs also have the feature of a common mean of 50 and a standard deviation of 21.06. Their values match percentile values at the 1st, 50th and 99th percentiles. The process for converting test scores to percentiles has been described by Tatsuoka (1970) and others. Conversion of percentiles to NCEs can accomplished by means of table conversions prepared by Tallmadge and Wood for Chapter 1 evaluations.

NCEs are obtained from percentiles by means of a "Standard Linear Transformation" using the binomial theorem where

$$Y = aX + b.$$

To the extent that total scores can be themselves standardized at equal intervals, they can be used for statistical analyses. Consider, however, just how many of tests are in fact standardized.

In so far as percentiles and NCEs are based on frequency distributions obtained from the norm group, sample selection becomes all the more important. Consider, for example, if the norm group is made up of entirely of native speakers, then it is highly likely that there will be very little variance, and scores will be skewed toward the higher end of the scale. This means that a good many of the limited and, more than likely, all of the non speakers will fall off of the scale since their scores can be expected to be at the lower end of the scale. In other words, there will be a bimodal distribution. (See Figure 1).

In reviewing various approaches to understanding the relationship between linguistic and academic performance, we have concluded that there are only two approaches to the creation of a viable entry/exit model that are practically viable and theoretically defensible. The two approaches, discussed below, are not necessarily competing or conflicting. They may, in fact, compliment each other.

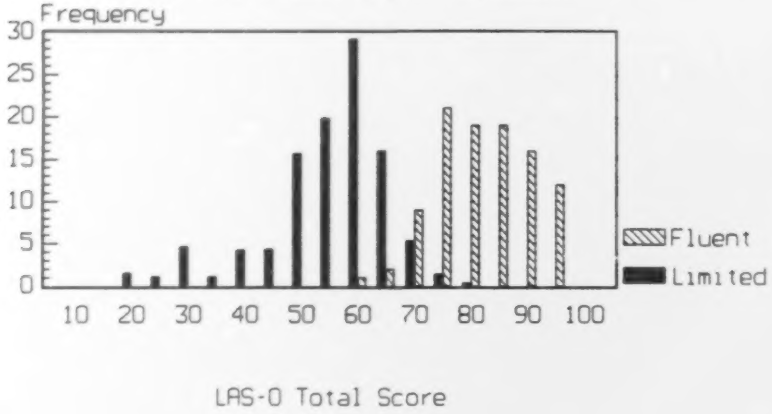
Multiple-Criteria Approaches

Most workers in the field argue that multiple indicators are needed in order to make sound decisions. Virtually everybody in the field agrees that it is not a good idea to make program determinations on the basis of a single test score. Thus, in addition to using reading, writing, listening and speaking, it is recommended that practitioners make decisions on the integrated information. Projects should rely on multiple sources of information obtained through varied types of data collection and thereby increase the accuracy of selection, placement, diagnosis and evaluative functions.

The use of multiple indicators to make decisions requires a consistent decision making process. Under ideal circumstances decision rules set cutoff or criterion levels for each variable according to its relative importance. Thus, for example, we can decide that six important factors will be considered in classifying students as non, limited or fluent speakers of English. The problem, of course, comes in deciding how to weight each factor included in the process. Should reading be more heavily weighted than listening or vice versa?

As discussed in the section on criterion-referenced tests, weights, like cutoff scores, can be set in two ways — through expert judgment or empirically. In the following, we will briefly describe these two approaches, the former based on judgment and the latter based on an empirical relationship between predictor and criterion variables.

Figure 1
Frequency Distribution
LAS-O Total Score Form I C & D
Limited Vrs. Fluent English Speakers



Let us say that we have agreed that language proficiency is made up of measures of reading, writing, listening, speaking, teacher judgments and proficiency in the home language. In effect, this constitutes a working operational definition of language proficiency.

Lang. Prf. = Listening + Speaking + Reading + Writing +
Teacher Judgments + Home Lang. Prf.

Scores for each variable in the equation can, according to this model, be obtained and totals calculated. This leaves five problems. First, there is nothing to say the above six variable are indeed the critical variables. There could be others. Second, there is nothing inherent in the variables themselves to suggest specific cutoff scores. We don't have any information about how much of each is needed. Third, the model assumes an additive relationship among variables. They may not all be linearly related. Fourth, our definition of language proficiency is as limited or as broad as the variables used to describe it. Fifth, there are no ready-made criterion measures against which to validate the predictors.

One way to examine the problem of determining which variables are more important would be to collect data on each predictor variable (right side of the equation) and the criterion (left side of the equation). Then, through the use of multiple regression techniques, we could empirically establish the relative importance of each factor. This would lead to an equation in which, based on the data entered, each factor is weighted (beta) according to its relative importance or contribution to the total predictor/criterion variance. The resultant equation is thus an empirically derived description of language proficiency that includes each factor in order of importance. The process is seductively simple, and several writers have been led to the conclusion that all we have to do is "find the right set of predictors" (see Baker, 1983; Winter, 1984).

The problem of statistical colinearity is not readily apparent to the lay public. The issue is that it is extremely difficult to identify the relative importance of correlated variables, and importance can be obscured by a simple altering of the order in which they are placed or entered into the analyses process. While there are processes for minimizing these effects (see Wonnacott & Wonnacott, 1987), one has to be extremely careful in attempting to generalize results to policy decisions. The point here is that, regardless of statistical sophistication, there are no ready made techniques for dealing with all of the complexities that must be addressed in creating a viable model. Moreover, a purely empirical approach is apt to oversimplify both the problem and its solution.

The Socio-Linguistic Approach of Cummins

Cummins (1984) borrowed Donaldson's (1978) "context reduced/embedded" distinctions to explain difficulties in linguistic communication faced by language minority students. The approach has received widespread attention over the past several years as an explanation of how language minority students seem to be English proficient yet perform poorly in school content areas. Cummins explains this phenomenon by suggesting that two sets of skills define language proficiency. The first involves what Cummins refers to as "basic interpersonal communication skills" (BICS) and the second involves "cognitive academic language proficiency skills" (CALPS). The primary distinction between the two rests in the extent to which the communicative act is context reduced or embedded. BICS refers to context embedded speech whereas CALPS are acts that take place in a context-reduced environment. A context-reduced environment is one in which situational cues, such as those provided by verbal or other feedback, have been reduced. Context-embedded communication is more like what takes place in everyday communication between individuals. The former thus relies on external interpersonal cues whereas the latter relies on internal knowledge of appropriate responses.

Cummins argues that most language proficiency testing is actually little more than an assessment of interpersonal communication skills (BICS). As a result students are often exited prematurely or before their chances for success are realized. According to Cummins, many tests fail to include sufficient assessment of more cognitive/academic content. In this connection talking to a friend about another friend would involve BICS whereas writing an essay would involve CALPS. A thoroughgoing assessment of language proficiency in Cummins' view would, therefore, consist of both BICS and CALPS items.

Unfortunately, however, currently available tests were not constructed with Cummins' distinctions in mind although a number of them claim to measure BICS and CALPS. Moreover, with the possible exception of Gottlieb (1990), there have been no attempts, to our knowledge, to develop a set of measures designed specifically to assess BICS and CALPS. According to Chamot and O'Malley (1986), instruments for measuring cognitive academic language proficiency are not available. De George (1988) maintains that "most English Language proficiency tests do not measure academic language proficiency . . . and standardized tests in English confound content knowledge with language proficiency."

Irrespective of some of the theoretical difficulties, the approach has a good deal of intuitive appeal. The operationalization of BICS and CALPS within a testable framework, however, remains elusive. For the most, part the distinctions between BICS and CALPS have been used to explain existing data (a posteriori) and not to predict (priori) or actually to create a model.

On the other hand, Cummins has offered valuable and early insight regarding the fallacy of many approaches to the entry-exit process. For Cummins (1980) the entry-exit fallacy is in the belief that students can be placed into and out of programs on grounds of basic interpersonal skills and little else.

While it is not within the scope of this report to present a detailed analysis of Cummins' position or to develop a research agenda to validate the theory, it is important to recognize Cummins' admonitions about the importance of considering language proficiency in the broadest sense and not to restrict it to simple everyday linguistic interactions.

My impression is that Cummins' ideas are holistic, far more on the instructional and qualitative side of the equation as opposed to the quantitative or assessment side. The same can be said for the input hypothesis offered by Krashen (1982). These are useful metaphors, however difficult to quantify.

De Avila's Probabilistic Approach

De Avila, Cervantes, and Duncan (1978) reviewed various state and federal requirements for entry/exit criteria and concluded that the establishment of a model required the simultaneous yet independent consideration of both academic and linguistic skills. In an attempt to develop an empirically testable model consistent with federal and state requirements (i.e., that children must be provided a means to participate in the educational system), it was reasoned that children should be considered eligible for program entry whenever their English proficiency is significantly below that of their English monolingual peers. By extension, they argued that children should remain in programs until their expected level of academic achievement or probability of success is indistinguishable from that of mainstream children or, conversely, until expected failure cannot be attributed to limitations in language proficiency. The logic of the argument followed from the Lau decision that reasoned that children were failing because they did not understand what was taking place in the classroom.

Finally, De Avila and his colleagues argued that the point of intersection or crossover between school achievement and oral proficiency was the most defensible point at which to establish an exit cutoff because it could be reduced to an empirical definition. In order to test the proposition, however, they argued that several other issues had to be addressed. Their first concern again dealt with definition, particularly with the distinction between dominance and proficiency tests.

After reviewing different approaches, they concluded that data provided by dominance tests (nominal categories) were of little use in the development of entry and/or exit criteria because dominance tests do not provide continuous data and are, therefore, difficult to relate to achievement in a way that would facilitate the establishment of cutoff scores or models that could be empirically tested. Dulay and Burt (1978) provide additional discussion on the topic from a somewhat different perspective.

De Avila et al. presented their model in two parts. First, in operational terms, a probability based model assumes a linear relationship between linguistic proficiency and academic achievement. The model may be better understood by referring to Figure 2, which presents the linear relationship between academic performance and linguistic proficiency.

The second aspect of the model involves the application or inclusion of a cutoff criterion or exit score based on academic performance. This component may be added to the model by including the average academic performance of the population with whom the language minority children are to be compared. Figure 3 shows the average academic performance of the majority comparison group as a straight line running parallel to the line indicating oral language proficiency. Note that the figure assumes that linguistic proficiency for the comparison group (language majority) is held constant or unchanging across different levels of language proficiency for the language minority student. In other words, the model assumes that, while individual variation in English language proficiency exists for the monolingual comparison group, it is insignificant in comparison to that of language minority students. This variation is accommodated within the De Avila and Duncan model by setting or defining cutoff or criterion levels as a bandwidth that allows for individual variations.

Under contract with the California State Department of Education, three small scale studies (De Avila, Cervantes, and Duncan, 1978) were conducted to test the model. Data were collected on approximately 500 children at a number of schools throughout California and several other states in grades one through twelve. A commonly used test of language proficiency and standardized tests of achievement in reading and mathematics were administered to all children participating in the study. A total of eighteen separate analyses was conducted. The analyses included (1) an analysis of variance (ANOVA) to test the hypothesized achievement difference across five language proficiency levels; (2) tests of linearity to examine the hypothesized straight-line (linear) relationship between the two sets of scores; and (3) correlational analyses to examine similarity of pattern. Of the eighteen analyses conducted, fifteen were found to be statistically significant in the predicted direction.

Figure 2
Hypothesized Relationship Between
Language Proficiency &
Academic Performance

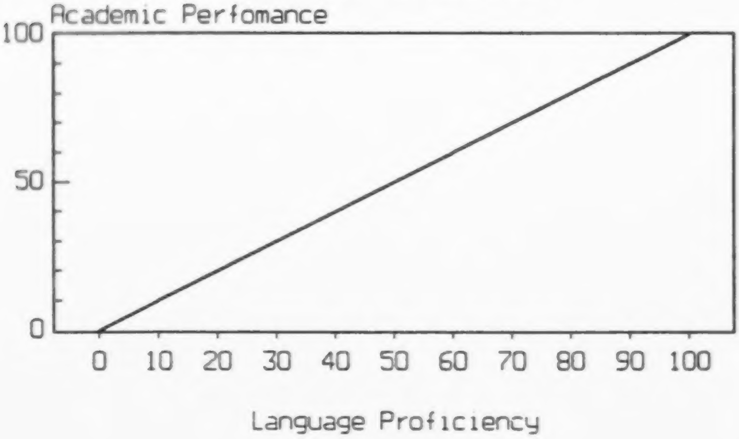
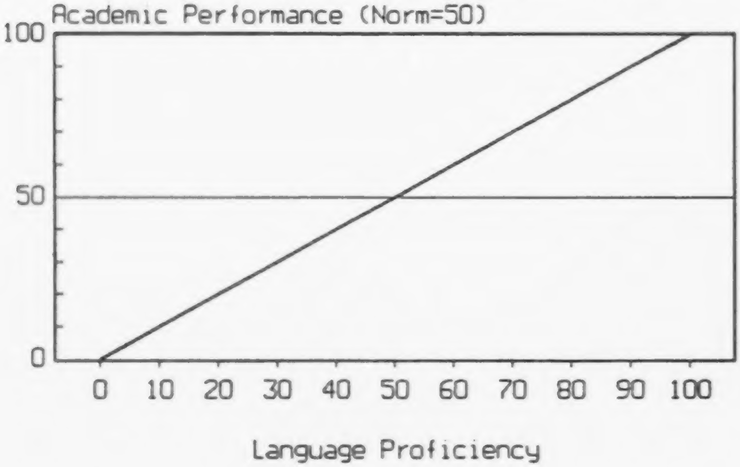


Figure 3
Hypothesized Relationship Between
Language Proficiency & Academic Norm



Data compiled from several other studies which were examined by De Avila, Cervantes, and Duncan found nonsignificant correlations between oral language proficiency and academic achievement among language majority or mainstream students. Other studies report similar results among proficient speakers. Scores for mainstream students were, with rare exception, well within the proficient range. The lack of variance, as predicted, resulted in low-order correlations (see De Avila and Duncan, 1981).

In a study carried out by the Houston Independent School District involving several thousand students, similar support for the approach was found. In this study, researchers plotted frequency of chance performance on an achievement test against oral language proficiency levels. They found an inverse relationship between proficiency and chance performance. As proficiency level went up, the frequency of students performing at a chance level of achievement went down. These data provide direct support for the approach from another analytic perspective.

Assessment of English language proficiency as a predictor of school achievement in monolingual English speaking settings, however, provides no information about the probability of success in particular programs (i.e., bilingual, ESL, sheltered English, etc.). Moreover, level of proficiency in one language (the home language or English) cannot be taken as indicative of proficiency in a second language or of the probability of success of instruction in that language. Therefore, both languages should be assessed in order to maintain full understanding of the student's capabilities.

The incorporation of home language proficiency into the current model (a form of linguistic parity) is accomplished by simply repeating the same process described for English. Unfortunately, however, few states seem to require assessment of home language proficiency. Fradd and Tikunoff (1987, p. 25) cite a recent survey by Development Associates in which districts indicated that only about two percent of the reporting districts actually use home language proficiency data to determine special language services eligibility.

While there seems to be good support for the probabilistic approach, there are potential problems in using achievement and oral proficiency tests that have not been validated against the model. For example, there is some difficulty in equating different (e.g., English and Spanish) achievement tests. However, De Avila and Duncan (1984) have pointed out that as long as both tests cover the same academic content and are reported in standard units, it would be possible to plot achievement scores for English and the home language on the same curve.

On the other hand, there is a lack of comparability between different oral proficiency tests which arises from the fact that the item P-values (difficulty levels) are different for the different tests. In practical terms this means that some of the tests are very difficult (i.e., there is a low statistical probability of a correct response); others are very easy, and so on (see Ulibarri, Spencer & Rivas, 1981). Thus, students could be kept out of programs through the use of easy tests to identify eligibility or kept in through the use of a very difficult test to reclassify.

De Avila and Duncan (1988) recently replicated various features of the above studies in which they compared the data obtained for the 1978 study and to data collected in 1987. Results revealed a strong degree of consistency between the two sets of data.

Figure 3 provides a graphic representation of the model in which normative expectations (arbitrarily set at 50 for both) are provided for both minority and majority populations. In a recent memo prepared by the State Department of Education/The University of New York (Walton, 1989), cutoff levels were compared across different states. There was a range from a low of the twenty-third percentile (Texas) to a high of the forty-ninth (Kansas). In no case was it indicated that any of the levels was empirically established. Most seem to be guided by other factors such as Chapter 1 criteria, availability of resources, and so on. The use of a single score or cutoff is dangerous in that it sometimes stretches the accuracy beyond its ability to discriminate between adjacent scores (De Avila & Duncan, 1982). Thus, the idea of using a bandwidth was introduced as long ago as 1976. Unfortunately, few tests offer bandwidths as viable solutions to the problem of standard error of measurement (Kerlinger, 1973).

In a limited sense, one might also conclude that the above results support Cummins' notion of concept embeddedness, in which oral data are taken as embedded and achievement data are thought of as disembedded or context reduced. See Tannen (1982) for a critique of the assertion that writing, for example, is necessarily more decontextualized than speech. The major difference between the probalilistic model and the Cummins position rests on the distinction between BICS and CALPS. A probabilistic model bears no burden with respect to specifying content.

The importance of sound assessment at every step of any model should be obvious. If the assessment of language proficiency, for example, fails to produce a linear relationship, the entire system can be questioned. I strongly question whether all of the tests listed by various test compilations can meet this requirement. This is why studies of convergent validity such as described above produce disappointing results. Failure to attend to other aspects of validity only exacerbates the problem.

Finally, Spolsky's (1968) comment on this issue is refreshing:

> Interpreting test scores calls for experience, flexibility, and willingness to remember that one's statements are probabilities rather than certainties. To expect more of a test is, at best, foolish. To claim more is, at best, naive.

Informational Needs and More Measurement Issues

O'Malley (1989) lists five major uses of test information (selection, diagnosis, placement, reclassification, and evaluation) that fall into three administrative levels within the educational system. Gonzalez (1984) offers similar insights from a governance point of view.

Information gained from tests is typically used at three administrative levels within the educational establishment. First, test information is used at a policy level by state, federal and legislative offices. The information needed at this level includes general group statistics regarding educational attainment level and numbers of students of different types. Impetus for testing at the federal level comes from four different sources, including Public Law 94-142, Native American BIA (see Milne, 1987).

There are no fewer than ten states that have specific policy regrading assessment of the educational progress of language minority students (see De George, 1988). Such data are used to establish programs (e.g., drop-out prevention) and set performance objectives. The recent report entitled "A Summary of State Reports on the Limited English Student Population" is an example of the use of information generated largely from test results. At the local supervisory level, district administrators, program directors and evaluators use test data to satisfy state and federal requirements in addition to school board demands.

At a second level, local district administrators, program directors, and evaluators need assessment information. In one sense, they require the same information as the superordinate agencies in order to establish, design, monitor and evaluate programs. Moreover, test information is used to assess local need, to determine the number of teachers required, and to allocate other resources. Finally, building personnel need to track student progress at the classroom and individual student levels in order to place and reclassify students.

Unfortunately, classroom needs are often the last considered. Testing requirements, including selection of tests and testing schedules, are usually set at the supervisory or superordinate levels. Teachers are seldom involved in the process of test selection or the design of methods for the use of data. Moreover, teachers are seldom trained on how to use test information. Involving teachers who have not been trained on what tests can and cannot do sometimes only adds to the confusion. Teachers need to know how to interpret test results in order to diagnose specific strengths and weaknesses of individual students. Teachers also need to be able to track progress on a daily, weekly or monthly basis in order to adjust the content and method of instruction. Seldom are teachers provided with either reports or assistance in using test data and, as a result, tend to view testing as little more than an intrusion or interruption of instructional time. There is a plethora of teacher made tests that, to a greater or lessor extent, satisfy teacher needs. They serve little purpose beyond the classroom insofar as they are not comparable from one classroom to the next.

In this connection it is worth commenting that the preparation of test items is

> essentially creative — it is an art. Just as there are no set formulas for producing a good story or a good painting, so there can be no set of rules that guarantees the production of good test items. Principles can be established and suggestions offered, but it is the writer's judgment in the application — and occasional disregard — of these principles that determines whether good items or mediocre ones are produced. Each item, as it is being written, presents new problems and new opportunities. Thus item writing requires an uncommon combination of special abilities and is mastered through extensive practice. (Wesman, 1971, p. 8)

With respect to test design, it should be borne in mind that, in addition to concerns over item design, final item selections are governed by both practical and theoretical concerns. For example, since measures of oral proficiency are often administered to large numbers of language minority students (who may not comprehend standardized test instructions), there are such constraints as logistics, training of examiners and test utility that must be considered. While, in the most ethnologically ideal of all possible worlds, such measurements would involve the collection of natural language samples in various sociolinguistic settings (except for the school, which may not reflect the child's home culture), the harsh reality about language assessment is that:

1. Children are tested in school settings (often in less than ideal circumstances). Concern over other language settings is not of particular importance to the schools.

2. Testing adds greatly to school burdens (often with no immediate benefit to the individual school). Results tend to be used primarily for administrative purposes.

3. Lengthy transcriptions and linguistic analyses are often beyond the budgets and/or training of most school district personnel.

4. Data analyses and tracking systems needed to take full advantage of the data provided by testing are often not found in local school settings. Moreover, data processing centers are reluctant to use mainframe computers for additional purposes.

5. The people who administer and score language samples and tabulate results are not linguists, psychologists, sociologists, anthropologists or educational administrators. They tend to be community people, who, unfortunately, in many instances may have the same language problems as the students.

6. Testing time is limited to only a few minutes per child.

7. State regulations often require that testing take place in the beginning of the school year when things are in greatest flux and students, particularly the younger ones, are not used to the school routines.

8. Follow up testing for students who score on the "cutoff" is seldom conducted.

9. Interjudge reliability is seldom checked.

10. Tests are selected on the basis of cost, administration time and real or imagined connection to the curriculum as much as on the basis of psychometric considerations.

Evaluation: More Problems

Test scores are used to identify students who are eligible to receive special services, place them in particular programs and reclassify (or exit) them into mainstream classrooms. By virtue of state and federal regulations, test scores are also used to evaluate the effectiveness of programs. The purpose of program evaluation is to determine the effect of program participation. That is, to what extent can gains or losses in academic achievement (is this the sole criterion?), as measured by an acceptable test, be explained by program participation? Districts are required to conduct annual assessment of educational status or progress while controlling for extraneous or unrelated factors that might weaken the validity of evaluation outcomes and, to report their findings according to specific regulations.

On the federal level, both Chapter 1 and Title VII regulations require districts to report student outcome data as part of their evaluation of educational progress. Since both Chapter I and Title VII serve LEP students, it would seem worthwhile to examine how some of the above issues and problems impact the evaluation processes. As will be seen, a juxtaposition of rules and regulations reveals a number of inconsistencies, paradoxes and downright confusion over how best to define, assess and serve children who come from non-English speaking backgrounds and who are experiencing difficulty in the schools.

A cursory examination of Chapter 1 and Title VII rules and regulations underscores some of the confusion particularly in relation to identification and selection of students. Chapter 1 defines eligibility on the basis of whether or not a student is "educationally disadvantaged." Title VII defines eligibility even more loosely on the basis of English language proficiency. Chapter 1 is designed to serve students whose "educational attainment is below the level that is appropriate for children of their age" (Fed. Reg., 1989, p. 21758). Rules and regulations for Chapter 1 are quite explicit in stating that "lack of English Language Proficiency in and of itself is not regarded as sufficient reason to declare a student educationally disadvantaged."

It would seem that Chapter 1 and Title VII are designed to serve two entirely different populations and that Title VII students constitute a subset of the Chapter 1 population, that is, students who are low achieving and who, in addition, are limited English proficient. Closer examination of eligibility standards reveals a far more confusing picture, particularly when the ever present issues of definition and assessment are taken into consideration.

Lack of English language proficiency is supposed to distinguish Title VII students from Chapter 1 students. In order to determine whether or not a student is eligible for services, Chapter 1 applicants are required to use "systematic and objective" measures, implying the need to test language proficiency and academic achievement.

Some of this confusion arises out of the Chapter 1 definition which is, from a practical point of view, indistinguishable from the definition used to identify students for bilingual or ESL programs. Language proficiency is defined as consisting of two aspects, much as Cummins has suggested. The first aspect concerns normal everyday communication. The second concerns academic communication. The first is measured by tests of conversational English whereas the second is measured by norm-referenced or criterion-referenced tests of language, reading, writing and mathematics (Rayford, et al., 1990). These latter tests are the same as those used to identify the Chapter 1 population as a whole. In other words, it would appear that LEP students may well qualify simply on the basis of low achievement without regard for how well they may or may not speak English. Moreover, there is some evidence to suggest that for elementary school age students, the two communication skills (BICs and CALPs) are closely related.

In a recent set of studies Sharon Duncan and I tested the listening, speaking, reading and writing skills of several thousand language minority and mainstream students. We found that there were almost no students in the elementary grades who were able to read and/or write (as defined by the fortieth percentile on an NRT) who could not speak English. Table 1 shows the relative frequencies for non, limited and proficient speakers across three levels of reading/writing.

Upon further investigation of the population we found as much as 98 percent overlap between Chapter 1 non LEP and LEP students. In other words, oral language skills seem to be critical for the development of reading and writing skills, at least at the elementary level. If we were to examine the oral proficiency of mainstream Chapter 1 students along with reading and writing skills, we would find many students with both oral and literacy problems.

At the secondary level the picture was more complex because of developmental differences. These data showed that there was a significant number of junior and high school students who were able to read and write in English but were not able to speak English. Analyses revealed that students of this type tended to be more affluent recent arrivals who had studied English in the homeland. In this instance, they tended to be older Chinese students from Hong Kong. The phenomenon is also common in the United States, where college students study a foreign language, master its grammar, read and write in a satisfactory manner but are still unable to speak the language.

Nonetheless, it seems somewhat disingenuous to say that Chapter 1 funds cannot be used to overcome limited English proficiency when part of the definition of language proficiency includes the very same elements that define the Chapter 1 population as a whole. This overlap in definition can produce only confusion and, to the extent Chapter 1 programs are prevented from addressing limited English proficiency, programs that fail to meet the needs of language minority students who are LEP. Current practices do not recognize the type of subtleties needed to make these distinctions. The point is that there are many kinds of LEP students.

TABLE 1

READING/WRITING LEVEL by ORAL LEVEL
Cell contents: Frequency/Row percent/Column percent

	Non Reader/ Writer	Limited Reader/ Writer	Competent Reader/ Writer	Total
Non	18	6	0	24
Speaker	75.0	25.0	0.0	0.7
	2.02	0.48	0.0	1
Limit	620	419	50	18
Speaker	56.93	38.48	04.59	9
	64.97	33.82	03.95	32.08
Proficient	251	814	1217	228
Speaker	11.00	35.67	53.33	2
	28.23	65.70	96.05	67.22
Total	889	1239	1267	339
	26.19	36.19	37.32	5

The confusion and failure to meet student need has been recently documented in a survey of Chapter 1 programs. According to the findings of the Council of Chief State Officers (1990), "it appears that there is no differentiation in the instructional services provided to Chapter 1-eligible students and the instruction provided to Non-LEP Chapter 1 students." In other words, LEP students are treated in the same way as other lower achieving students.

The lack of clarity surrounding language proficiency and the social circumstances defining it has also led to problems in both the study of bilingualism and the evaluation of Title IV programs. De Avila and Duncan (1980) reviewed over one hundred studies on the effects of bilingualism (proficiency in two languages) conducted in the United States over the past fifty years and found that in only a few cases (four) the actual extent of bilingualism was assessed. With rare exceptions, subjects were grouped on the basis of ethnicity; proficiency was assumed without distinguishing it from dominance. They found that the failure to control for the absolute language proficiency of comparison groups had resulted in a confounding of language with intellectual development and cognitive style.

Confusion over language proficiency has also led to confounding with social class and other variables. The paper by Dunn (1989) on the intelligence of language minorities is a good example of confounding of language proficiency and language minority group membership with social class variables.

In the area of program evaluation there is an even better example of how the failure to distinguish proficiency from dominance and to operationalize the former has resulted in fifteen years of equivocal results. The point is well illustrated in the metaanalyses of bilingual education evaluations conducted by Baker and De Kanter (1983) and in the reanalysis by Willig (1985). A major difference between the two sets of analyses, however, is the fact that while Baker and De Kanter (and a good many others) made no attempt to account for proficiency differences, Willig points out that

> it is apparent that the equating of experimental and comparison groups on ABSOLUTE proficiency in both languages is imperative if one is to make fair comparisons for purposes of educational evaluation.

Willig's point is underscored by a survey by Development Associates (cited above), which found that fewer than two percent of programs include assessment of home language proficiency in program placement decisions.

While Baker and others (see Rosell, 1989) interpret the lack of clear cut findings to conclude that bilingual education does not work, Willig argues for random assignment in future studies. The technical and moral intricacies of random assignment have been discussed at length by Campbell (1969). A review of Campbell's comments is strongly recommended.

My own conclusion is that we are confronted with the same problems as confronted us in the discussion of the entry-exit process. Until language proficiency is defined in operational terms and tests have been successfully validated against this definition (or other definitions), evaluation of Title VII programs and research on bilingualism will be compromised and equivocal.

Although Sharon Duncan and I have been working on the problem from our own point of view for some time and are encouraged by our progress, I am not very optimistic about the near future, particularly when I review the most recent Chapter 1 models for selecting LEP students and Title VII research designs. Neither seems to recognize the importance of the distinctions discussed above. Moreover, to leave these complexities up to the schools in the name of flexibility seems a cruel hoax, designed for failure. Until recently, with the funding of the Evaluation Centers for Title VII programs, it seemed that whatever good came out of local attempts has been in spite of the confusion exhibited by the leadership.

Taking Language Proficiency Apart and Putting it Back Together In A New Way

In the following section I describe the process whereby a set of test items (created, I hope, in an "artful" manner) is used to develop a set of subscales (that mirror educational/linguistic values) and then, from these subscales, several types of total or summary scores. One such set of summary scores comes from the combination of listening, speaking, reading and writing. The juxtaposition of literacy and oral skills taken from two different tests leads to the Language Proficiency Index, a nominal scale, intended to describe different types of students in a qualitative manner.

The creation of a score on an interval scale is the next step in the process. By recombining listening, speaking, reading and writing according to information processing principles of input and output, we were able to move from the nominal categories of the LPI to an ordinal scale. Finally, we were able to move from a simple ordinal scale to a ratio scale and then on to an interval scale.

The Language Proficiency Score (LPS) is possibly a useful metric upon which to conduct a wide variety of statistical and mathematical operations. The LPS is based on a good deal of information reduction. From over 200 test items and exercises a single number is created. The question becomes whether or not that single number reflects reality or the original empirical information represented by the LPI described below. As will be seen, the process yields some rather interesting results.

Combining Apples and Oranges: Creating a Language Proficiency Score

Language proficiency has been described by various state and federal regulations as consisting of listening, writing, speaking and listening. In previous work, Duncan and De Avila discussed the merits of considering literacy and oral skills simultaneously when making language proficiency determinations. Toward this end, they introduced the concept of the Language Proficiency Index (LPI; see below), which they defined as the student's level of oral proficiency relative to his or her reading/writing level.

Although the LPI offers a face-valid nominal categorization scheme, in that it clearly illustrates that not all LEPs are the same, it suffers from some of the same problems as other nominal categories in that direct comparisons are not possible. Moreover, since the scheme is based on categorical distinctions and not on ordinal scores, it is difficult to plot growth other than by counting the numbers of students in each category. The LPS represents an attempt to combine all four into a single score in order to create an ordinal scale that, in turn, can be transformed into an equal interval scale.

LANGUAGE PROFICIENCY INDEX

LPI	Category	Description
1/2	LEPa	low level R and W skills; mid level (limited) L and S skills
1/3		
1/4	LEPb	low level R and W skills; high level (proficient) L and S skills
1/5		
2/1		
2/2	LEPc	mid level R and W skills; mid level (limited) L and S skills
2/3		
2/4	LEPd	mid level R and W skills; high level (proficient) L and S skills
3/1		high level R and W skills; low level (limited) L and S skills
3/2	LEPe	high level R and W skills; mid level (limited) L and S skills
3/3		
3/4	FEP	high level R and W skills; high level (proficient) L and S skills
3/5		

(RW/LAS-O)* R = reading; W = writing; L = listening; S = speaking

A seemingly straightforward approach to the creation of a single score would be to add scores for each test component together on the assumption that their respective scales are compatible. Several examples shown below were taken from actual scores on one of the three tests that measure all four skill areas:

	Reading/Writing				Oral					
	Reading		Writing		Listening		Speaking			LPI
Exp1	60	+	50	+	90	+	70	=	270	2/4
Exp2	40	+	30	+	95	+	95	=	270	1/5
Exp3	70	+	65	+	70	+	65	=	270	2/3

The problem with this approach should be obvious. While the three examples show rather different combinations of scores, they all received the same total of 270. Similar problems occur with other approaches that fail to distinguish between different configurations. The examples show that an additive model would be unable to distinguish between a proficient speaker who was a limited reader/writer and a proficient speaker with no literacy skills at all. Similarly, neither could be distinguished from a student who was limited in both areas.

The Language Proficiency Score represents an attempt to create a single metric that produces a unique score for different configurations of skills and is ordinarily distributed. To accomplish this requires that we look at language proficiency from a slightly more abstract point of view.

Virtually any communicative act can be described as consisting of three elements, including the input, processing and ultimate output. Affect, within this model, serves as a modifier variable, as a filter or perceptual/motivational set (see Haber, 1966). It drives the system by focusing the perceptual apparatus on the communicative act. The input/output continuum can be seen in a variety of corresponding ways depending on discipline. For example, linguists and educators alike have referred to receptive and expressive skills. Others have described the process as reception and production and applied the concepts to human and machine communication alike. Probably the strongest influence in this direction has come from cognitive psychology particularly from information processing theories (see Neisser, 1968).

The present approach largely represents an integration of linguistic structures and psychological processes. It also bears some limited resemblance to the ill fated "language skills framework" developed by SWRL as part of a large effort to construct entry/exit criteria and associated assessment procedures for bilingual programs. The SWRL project, however, caved in under its own weight, leaving districts to develop their own tests and procedures. The full system was complex and ponderous; it is doubtful that it was ever used in a real setting.

The following is a fundamentally operational definition of "limited English proficiency." It takes the four aspects of language proficiency as they apply to a school context, and defines them accordingly.

Defining Limited English Proficiency (LEP)

Definition of terms

"LEP student"

A student from a home language other than English whose language proficiency is such that the probability of his or her success in a mainstream/regular classroom is less than that of comparable students.

"Comparable Students"

Students whose scores on standardized tests of academic achievement are at or about the national average or some other agreed upon cutoff score.

"Language Proficiency"

The set of combined skills in four linguistic domains including reading, writing, listening and speaking. The combination of scores from these domains shall be reflective of the continuous natural variation in skill levels for the four domains defining language proficiency.

"Probability of Success"

The relative proportion of language minority students passing a standardized test of academic achievement as a function their language proficiency.

Thus, given scores on a student's language proficiency in each of the four domains, it should be possible to state a student's "chances for success" in mainstream academic subject matter. For example, given X score on a test of language proficiency, a student may be said to have Y chances for a passing score at or above an agreed upon value.

The value of the approach is that all terms included in the definition can be operationally stated. Precise agreement with respect to cutoffs, proportions and all other numerical values can be empirically stated or established. Finally, additional values (e.g., teacher judgments) can be added to the equations in order to adjust borderline scores at or about the cutoffs. The question becomes one of deciding how to put things together.

Regardless of discipline, the constant or invariant process underlying all forms of communication seems to be that the transmission of information involves, at a minimum, a "sender" of the information and a "receiver" of the information. How the information is received, processed and ultimately transmitted is at the very heart of the study of mental processes. It is not our purpose here to review the wealth of literature in this area but rather to borrow the metaphor in a relaxed sense. We are not interested in hectic academic controversies surrounding the fine grain detail of the theories. Rather we have employed the distinction as a shorthand, a way in which to group phenomena hitherto grouped by default test usage.

Given this approach, traditional approaches to assessment by large publishers would seem misdirected. Rather than grouping oral language skills separately from literacy skills, it would seem more appropriate to group them according to the above distinction. In this way reading and listening would be grouped under the rubric of "input," "reception" and so on. Speaking and writing would be grouped under "Output," "Production" and so on.

The Language Proficiency Score distinguishes input (receptive skills) from output (productive skills) as shown in the following:

LPS = (Listening + Reading) + 2*(Speaking + Writing)

Speaking and writing are weighted by a factor of two in order to reflect the relative importance of production over reception. Language Proficiency Scores for the three examples would be recalculated as shown below:

	Receptive (Input)				Productive (Output)			
	Reading		Listening		Speaking	Writing		
Exp1.	60	+	90	+	2 x (50	+ 70)	=	390
Exp2.	45	+	95	+	2 x (30	+ 95)	=	380
Exp3.	70	+	70	+	2 x (65	+ 65)	=	400

The reorganization of reading, writing, listening and speaking according to the above discussion has the effect of spreading out the different test configurations shown in the three examples. A major question to be addressed in the future will be the extent to which the spreading out of scores faithfully reflects the qualitative information contained in the LPI.

Sharon Duncan and I are currently involved in a number of studies to examine more closely the empirical side of the approach. For example, in one set of analyses we examined the relationship of Relative Language Proficiency to the Language Proficiency Score in an effort to see to what extent qualitative (LPI, nominal) and quantitative (LPI, ratio/interval) scales mesh. To test the proposition that the LPS reflects the LPI we ran a series of ANOVA as discussed in the preceding section. Results were supportive of the approach.

Probably one of the most immediate uses of the LPS is as an eligibility score in the sense described by Campbell (1969). "When several criteria are available they can be combined statistically into a single eligibility score."

In the near future we plan to examine further the nature/value of the topology. Toward this end we plan to generate profile analyses of the most frequently encountered LPIs selected from the frequency distributions of LPIs such as shown on Table 2 below.

TABLE 2

Frequency Distribution: Language Proficiency Index or
STUDENT TOPOLOGY

Reading & Writing Level / Oral Proficiency Level

LPI	N	%	LPI	N	%	LPI	N	%
1/1	66	.024	2/1	31	.014	3/1	0.0	0.0
1/2	111	.050	2/2	67	.030	3/2	36	0.16
1/3	46	.02	2/3	157	.157	3/3	99	.045
1/4	7	.001	2/4	491	.222	3/4	366	.211
1/5	0	0.0	2/5	248	1.12	3/5	269	1.222

Table 2 can be viewed in a variety of ways. For example, it is worth noting that the most frequent LEP type, (the 3/4 and 3/5 were comprised exclusively of monolingual English speakers) was the 2/4 or students with proficient oral skills but limited reading and writing skills. Given the above discussion on the relationship between Title VII and Chapter 1, these would be eligible for Chapter 1 services. On the other hand, the data seem to indicate that roughly 28 percent of those included in the study would have been identified as eligible for Title VII services. In summary, there were three groups or classes of students identified by the above approach. They include students who are limited in both reading/writing and oral skills, students who are limited in reading/writing skills but orally proficient and students who are proficient in both oral and reading/writing skills. The small percentage of students who were competent readers/writers but limited in oral skills (3/2 and 3/3) tended to be secondary level recent arrivals who had studied English in the homeland. Finally, notice that there were virtually no 1/5 or 3/1 students.

Future analyses will be directed toward a more detailed (more qualitative/quantitative) analysis of the profiles of different student types based on the Language Proficiency Index.

The Moral Imperative

The problems discussed above arise out of the fact that a great many students need special help, and there are limited funds to go around. Hence, a selection process is required to identify the most needy. The process of selecting who gets served affects not only who goes in or out of the program but how evaluations of program effectiveness are conducted. Random assignment, which is the preferred procedure from the point of view of the evaluator/researcher, is morally unacceptable from the point of view of the program provider. Thus, there is an underlying moral issue.

The moral issue itself, however, offers a unique opportunity for rigorous evaluation. Campbell (1969) has described a number of points in this connection. Campbell's comments regarding random assignment and evaluation/experimental design are particularly relevant to the present discussion in which identification and assignment to experimental or control group become one and the same.

OBEMLA has outlined five approaches (models) to assess program effectiveness (see Rayford, et al.). They include pre/post, gap reduction, nonequivalent comparison group, grade cohort and regression discontinuity. In addition, eleven threats to validity have been identified as having various effects on the five evaluation models listed above. Threats to the internal validity of program evaluation range from confounding the effects with those of another to ill feelings on the part of students not receiving program benefits. Many of these threats have been alluded to in the above discussion, particularly issues having to do with instrumentation, comparability of pre/post measures, parallel forms and so on.

Of principal concern, according to OBEMLA, is that evaluations use a nonproject comparison group as similar as possible to the project group (i.e., the Title VII students) except that they do not participate in the program. The identification and selection of control group students is fraught with difficulty. Moreover, the most rigorous designs may be impossible to implement because of problems over and beyond the resources of all but a few projects. In fact, I would argue that, as design specifications become more sophisticated and able to accommodate greater control over threats to internal validity, the ability of projects to implement such models is actually lessened. Not only are the demands on the instrumentation and tests greater but so are demands on selection procedures, project personnel and financial resources.

In fact, given the above discussion on entry/exit issues and tests, implementation of the more powerful models (e.g., gap reduction and regression discontinuity) is impossible at the local level in all but a very few districts. Moreover, the funds necessary to conduct full scale evaluation are not readily available. Finally, project personnel are often reluctant to participate in evaluation, which appear to have effects on future funding and jobs. To do so, some may feel, is a form of self-incrimination. OBEMLA would do far better to expand the role of the evaluation centers in this area, leaving the more mechanical aspects of evaluation, such as data collection and testing functions, at the local levels.

While some districts have been able to take advantage of the Evaluation Assistance Centers, most have not. The same can be said of the now defunct Lau Centers. There are many reasons for this situation, a discussion of which would lead the present discussion somewhat off the present purpose or topic. Suffice it to say that without the Lau Centers things would have been even worse. Moreover, the EACs offer a ray of hope in that their mandate is directly related to assisting districts solve the problems under discussion. Hopefully, their role will be strengthened in the future.

Summary, Conclusions and Recommendations

We have reviewed a number of issues and problems associated with the creation and application of tests and decision models for determining entry/eligibility, placement/treatment, and reclassification/exit processes used to remedy the limited English language proficiency of students from homes where English is not the primary language. Our review focused first on the problem of definition. Two concepts critical to the assessment process were discussed, language dominance and language proficiency. It was argued that the concept of language proficiency is not only more linguistically sound and scientifically robust but more amenable to mathematical/statistical manipulation because of the known properties of the test score distributions. A number of the ideas used in this argument were then used to review some of the problems with current testing practices related to eligibility, placement and reclassification. It was also argued that the failure to work from a common set of definitions and principles has compromised not only the process of entry/exit but, in addition, both the evaluation of Title VII programs and research on the effects of bilingualism.

One of the major purposes of the discussion is to point out the need to disentangle (operationalize) cause (limited language proficiency) and effect (achievement in mainstream school settings) so that they can be reformulated into a meaningful calculus. One attempt was outlined. In the creation of the LPS we have attempted to maintain the sense of the concepts underlying the assessment of language proficiency while, at the same time, reducing the process to empirically testable steps. The need for other similar approaches should be self-evident.

A principal problem with currently used tests stems from a lack of conformity with standard psychometric practices. It is important to bear in mind that the responsibility for fair testing practices resides with test developer and test user alike. Both have their responsibilities. In this regard the American Psychological Association, working in collaboration with the American Educational Research Association, the National Council of Measurement in Education and the Canadian Psychological Association, has recently prepared a document on the "development of a code of fair testing practices." The practices outlined in the publication of the proceedings of the Joint Committee on Testing Practices (Fremer, Diamond & Camara, 1989) are as applicable to language proficiency testing as to the testing of the general population. I strongly recommend the review of these proceedings to test developer, user and reviewer alike.

In many respects the guidelines outlined by the JCTP may be useful as a way to standardize not only the development of tests but their use and evaluation. Developers, users and reviewers would be working from a common base. Developers would know what was expected of them. Users would know what to expect, and reviewers would have a common ground on which to base their reviews.

The JCTP has outlined elements that should be borne in mind by test developers and test users. The first addresses the processes of developing and selecting tests. The sixteen practices concern such test development measures as "explaining relevant measurement concepts as necessary for clarity" and, from the point of view of the test user, becoming familiar with how the test was developed and tried out. Similarly, provision of interpretable test scores requires care on the part of the developer as well as vigilance on the part of the user.

Both test developer and user also have responsibilities to the test takers, to inform them of the purpose of testing and of the uses to which the information will be put. The major issue for the JCTP concerns the fairness of test use. There are practices that can be exercised by both developer and user to make tests fairer to students. In fact, the issue for many is not so much the validity of tests but rather the fairness with which they are used. It appears, however, that being fair is not as easy as one would think.

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THEORY AND PRACTICE IN BILINGUAL/CROSS CULTURAL SPECIAL EDUCATION: MAJOR ISSUES AND IMPLICATIONS FOR RESEARCH, PRACTICE, AND POLICY

Leonard M. Baca

INTRODUCTION

Although the exact number is not known, it has been estimated that there are approximately one million students in our country who are limited English proficient (LEP) (referred to as potentially English proficient (PEP) by many educators) and who also have serious learning or behavior disorders and needs that may qualify them for special education services (Baca & Cervantes, 1989). These culturally and linguistically different exceptional (CLDE) students have been referred to in the literature as "triple threat students" (Rueda & Chan, 1979). In other words, these students have three strikes against them before they even get an opportunity to step into the batter's box (school). The first strike these students face is a behavior and/or learning handicap as defined by special education. The second strike is the limited English proficiency as defined by bilingual education. The final strike that many of these students must also deal with is poverty and all the concomitant limitations it imposes on the education experience. It has also been suggested that the characteristic of race or ethnicity be added as a fourth strike.

The federal government has over time responded to these three separate education issues for three distinct populations; namely the handicapped, the limited English proficient, and the poor. Each of these populations has advocates and organized lobby groups that have worked diligently to bring about mandatory or permissive legislation and accompanying programs and services for their specific category group. The CLDE or the "triple threat student" population, however, has never been targeted as a specific population in need of legislation and categorical support. For this and other reasons, CLDE students usually fall between the cracks and thus remain, for the most part, a major underserved and inappropriately served group of students in our schools today.

Describing CLDE Students and Their Needs

The bilingual student with special education needs should not be viewed as handicapped because he/she is limited in English proficiency. The student's handicap is not a consequence of dual language ability, but rather it is a result of a physical, psychological, or developmental impairment. The fact that the child is limited in English proficiency is merely an additional characteristic of the student.

Handicapped students, as defined by special education standards, are grouped in one or more of ten categories. These categories are the learning disabled, speech impaired, mentally retarded, emotionally disturbed/behaviorally disordered, other health impaired, multihandicapped, hard of hearing and deaf, orthopedically impaired, visually handicapped, and deaf-blind. Within most of these categories students may also be classified as either mild/moderate, severe, and/or profound. The large majority of handicapped students fall into the mild and moderate group and approximately 90 percent of the handicapped are in socially constructed categories, such as learning disabilities, emotional disturbance/behavioral disorders, mild and moderate mental retardation, and speech impairment.

The distinction between socially constructed categories such as learning disabilities and emotional disturbance and the physical/organic categories such as the deaf and blind is a very important one. The socially constructed categories are a consequence of social norms and thus subject to change over time and across various cultural and national groups. It has also been suggested by some educators that inadequate schools and inappropriate instruction or schooling may be responsible for creating handicapping conditions for students (Mehen, 1987; Cummins, 1989). For this reason, among others, it is important to include a discussion about a larger group of students not necessarily handicapped but very likely to be identified as such as they progress through school. This group is generally referred to as the "high risk" population. These students have been cited as having many of the characteristics described above. They, as a group, achieve below grade level and leave school before graduation in disproportionate numbers.

According to Fradd and Correa (1989), "high risk" refers to students who are physically, medically and psychologically in danger of failing to thrive. Included also are students who do not speak English as their first language and whose education opportunities are limited because of their lower socioeconomic status (SES) and cultural differences based on race and/or ethnicity. Perhaps the greatest risk factor some of these students face is that their schools, curricula, and teachers are disadvantaged in the sense that they are ill prepared to communicate with them in their native language and to understand their cultural differences, motivational patterns and academic learning styles. This, of course, points to the need for improved teacher training programs as well as more appropriate curriculum and materials for the at-risk and CLDE student population.

Both high-risk and CLDE students can benefit from instruction in language(s) in which they are stronger and more proficient. In many cases, this is the student's native language. Fradd and Vega (1987) have indicated that use of the student's non-English language is a central issue when a student has both limited English proficiency and a disability. Bernal (1974) appears to be the first educator to have advocated, in print, for a bilingual instructional program for the CLDE student. Baca and Cervantes (1989) and Ortiz (1983) have also recommended the use of a bilingual instructional approach for the CLDE student.

Bilingual/Cross Cultural Special Education Defined

Bilingual special education should be defined from a "bilingual" as well as a "special" (special education) perspective. The term "bilingual" generally means able to use two languages. Since the degree of proficiency in the two languages can vary considerably, Hornby (1977) suggests that it is not an all-or-none property but rather an individual characteristic that may exist in varying degrees from minimal ability to complete fluency in more than one language. A broad definition of bilingual education that is widely accepted is "the use of two languages as media of instruction" (Cohen, 1975, p. 18). The primary purpose of bilingual education, according to the consensus of experts, is to improve cognitive and affective development (Blanco, 1977). In other words, the primary goal of bilingual education is not to teach English or a second language but to teach children academic and social skills through the language they know best and to reinforce these in the second language.

Special education may be defined as an individually designed program of instruction implemented by a trained specialist for a student whose learning and/or behavior needs cannot be adequately met in the regular program of instruction. Based on the above information, bilingual/cross cultural special education is defined, for purposes of this paper, as "the use of the home language and the home culture along with English in an individually designed program of special instruction for the student" (Baca and Cervantes, 1989). In other words, bilingual special education considers the student's native language and culture as strengths and important resources that constitute the foundation upon which an appropriate and effective education may be provided. The ultimate goal of bilingual special education is to assist the CLDE student to reach his or her maximum potential for learning. Although teaching English as well as the native language are important, they should not become the primary purpose. To do so would cause a classic means-end conversion that could prove very harmful to the student. For example, if a special educator or a bilingual special educator would consider the acquisition of English as the CLDE student's primary need, valuable instructional time for teaching concepts and academic skills would be lost.

Just how the bilingual special education instruction would be implemented could vary considerably. By law and sound pedagogical practice, it should occur in the least restrictive environment. This generally means within the mainstream educational environment to the extent possible. The CLDE student could be served in a regular monolingual or bilingual classroom, in a resource room, or, if need be, in a self-contained classroom or special facility. The major determinants of the program design and delivery mode would be first the student needs and second the availability of specially trained bilingual, ESL and bilingual/crosscultural special education personnel.

HISTORICAL OVERVIEW OF AN EMERGING DISCIPLINE

The field of bilingual/crosscultural special education has a very brief twenty-year history and is still in the process of evolving and defining itself. The first references to bilingual special education were made in the early seventies (Baca & Amato, 1989). The first major professional conference titled "Cultural Diversity and the Exceptional Child" was convened in 1973 by the Council for Exceptional Children. The published proceedings of this conference were the first publication devoted exclusively to this topic. In 1974, the journal Exceptional Children published its first topical issue devoted to this area of concern.

The evolution of this new discipline can be divided into three periods. The first period, from 1970 to 1975, may be described as the awareness phase. The second period, from 1975 to 1985, may be called the program development phase. The third period, from 1985 to 1990, is best described as the program refinement and institutionalization phase. During the first phase educators and researchers began raising issues and calling attention to the need for nonbiased assessment practices and for native language and ESL instruction within special education programs. During this period, the emerging discipline began to coalesce around two major questions. The first was are we identifying the right students? In other words, are all of these minority students in special education really handicapped? The second question was are we providing these culturally diverse and language minority students in special education appropriate services? Although the field has moved beyond these early concerns, they still remain the focus of much instructional and research activity and debate today. The federal government's involvement in bilingual special education teacher training was also initiated during this second period (1979) with grants from what is now known as the Office of Special Education and Rehabilitative Services. It was also during the second period that an initial body of literature and syntheses of the extant knowledge base started appearing regularly as textbooks, monographs, and journal articles. The third period focused on refining existing public school instructional and higher education training programs. The period of the nineties seems to be concerned with restructuring the entire field through a substantial paradigm shift related not only to bilingual special education but both special education and regular education in general.

Legislation and Litigation

In addition to professional endorsement from educators and researchers, bilingual special education has also been supported by both legislation and litigation. Thus, it is now clear that bilingual students, including those with handicaps, have finally established their right to be educated in the language of their greater proficiency. This is based to a large extent on section 504 of the Rehabilitation Act of 1973, which states:

> No otherwise qualified handicapped individual in the United States as defined in Section 7(6) shall, solely by reason of this handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

One year later, in 1974, the Education for All Handicapped Children Act specified that assessment of all children be nonbiased in terms of handicap and native language. It also called for an appropriate education for all handicapped children, requiring that an individualized educational program (IEP) be developed based on the unique needs of each child. For the CLDE student this means that assessment planning and instruction should incorporate the native language and culture of the student.

The courts have also offered their support for bilingual special education. Perhaps the three most significant cases, in addition to the classic Supreme Court's Lau v. Nichols decision of 1974, have been Jose P. v. Ambach (1983), which charged that handicapped children were being denied a free and appropriate education because of a lack of timely evaluation and placement in an appropriate program. United Cerebral Palsy (UCP) of New York v. Board of Education of the City of New York (1979) charged that children who have disabilities resulting from brain injury or other impairments to the central nervous system were not receiving appropriate special education services. Perhaps the most significant of these cases was Dyrcia S., et al. v. Board of Education of the City of New York (1979). In this case, the plaintiffs were Hispanic children living in New York City who were both LEP and handicapped and who needed bilingual special education services for which they were not being promptly evaluated and placed. Because these cases were so similar, a consolidated judgment was issued for all of them. In summary, the relief included these provisions:

1. the establishment of an outreach office with adequate bilingual resources for the identification of children needing special education services;

2. appropriate evaluation through the establishment of school-based support teams to evaluate children in their own environment with a bilingual, nondiscriminatory evaluation process;

3. appropriate programs in the least restrictive environment, including a comprehensive continuum of services with the provision of appropriate bilingual programs at each level of the continuum for LEP children;
4. due process and parental student rights, including a Spanish version of a parents' rights booklet, which explains all the rights of children and parents. Also included was the hiring of community workers to facilitate parental involvement in the evaluation and development of the IEP.

CURRENT ISSUES

There are a number of critical and important issues facing researchers, practitioners, and parents and their children who are currently involved in bilingual special education. Some of the more critical issues are development of a theoretical framework for guiding practice; identification and assessment; over-and underrepresentation; prereferral intervention; curriculum and instructional approaches; leadership development; research and evaluation; and policy formulation. The next section of the paper will address some of these major issues.

The Need for a Theoretical Framework

There has been considerable discussion in this fledgling discipline regarding the theoretical frame that would be appropriate to guide research, practice, and policy in bilingual/crosscultural special education. Cummins (1984, 1986, 1989) has argued that minority student underachievement is a sociohistorical outcome of discriminatory treatment in society and the public schools. He sees special education for the mildly handicapped minority student more as an outcome of this unequal treatment than as a valid educational construct or program. He thus makes a strong case for the educational empowerment of language minority students and their parents. His bilingual special education framework calls for schools and educators to stop disabling minority students and to start empowering them by "promoting their linguistic talents and confidence in their personal identity and ability to succeed academically" (Cummins, 1986, p. 18). His empowerment model includes the following four dimensions:

1. an additive rather than a subtractive incorporation of the students' language and culture;

2. a collaborative rather than an exclusionary approach to parent and community involvement;

3. an interactive and experiential as opposed to a transmission-oriented pedagogy;

4. an advocacy-oriented rather than a legally-oriented assessment process.

The major goal of his theoretical framework and empowerment model is to prevent as much as possible the need for special education for minority students. The implementation of his model will require major changes in the way special education is currently conceived and delivered.

Ruiz (1989) in her discussion of the development of the Optimal Learning Environment Curriculum (OLE) describes an extensive literature review that generated, in effect, a theoretical framework for the effective instruction of CLDE students in California. She presents these as "instructional principles." They are as follows:

1. Take into account students' sociocultural backgrounds and their effects on oral language, reading and writing, and second-language learning.

2. Take into account students' possible learning handicaps and their effects on oral language, reading and writing, and second-language learning.

3. Follow developmental process in literacy acquisition.

4. Locate curriculum in a meaningful context where the communicative purpose is clear and authentic.

5. Connect curriculum with the students' personal experiences.

6. Incorporate children's literature into reading, writing, and English as a second language (ESL) lessons.

7. Involve parents as active partners in the instruction of their children.

8. Give students experience with whole texts in reading, writing, and ESL lessons.

9. Incorporate collaborative learning whenever possible.

Baca and Cervantes (1989), in the second edition of the Bilingual Special Education Interface, also propose a theoretical framework for bilingual special education that combine relevant research and validated practices from the parent disciplines of regular, bilingual, and special education.

The first part of the theoretical framework is taken from the effective schools research of regular education. The field of regular education has been concerned with how best to educate high-risk students for many years. When Coleman (1968) conducted his well-known study on schooling in the United States, he reported that family background was the key variable for predicting school success. His research painted a very pessimistic picture of schooling in poverty areas.

In the late 1970s this picture began to change. A few inner city school districts began to report achievement at or above national norms. Researchers decided to go into those schools and document everything that might account for the improved results. This effort became known as the effective schools research movement. Edmonds (1979) and Lazotte (1984) summarized much of this research. They stated that the characteristics of effective schools are:

1. strong administrative leadership,

2. high, positive expectations for all students and staff,

3. orderly but not rigid environment,

4. the placement of priority on academic skill acquisition,

5. the organization of school energy and resources for first priority,

6. frequent monitoring of student progress,

7. a clear, shared sense of mission,

8. the ability of students to learn and teachers to teach,

9. effective use of class time, and

10. effective home-school support systems.

Moving beyond effective schools in general and looking specifically at effective classrooms, a National Institute of Education (1982) study documented the following effective classroom management practices:

1. using a systematic approach;

2. preparing in advance;

3. planning before the school year starts;

4. establishing procedures and routines at the start of the school year and maintaining them;

5. focusing student attention on group lessons and independent work times;

6. establishing procedures during the first two weeks of school;

7. preventing problems from arising, rather than developing responses after they have occurred; and

8. maximizing student time on task for the improved learning of the basic skills.

In the area of instruction, the National Institute of Education (1982) documented the following in effective classrooms:

1. checking previous day's work and reteaching when necessary;

2. presenting new content/skills, proceeding rapidly but in small steps, giving detailed instructions and explanations;

3. having students practice with considerable teacher involvement until they understand 80 percent or more of the materials;

4. giving feedback and correctives, recycling when necessary;

5. providing for independent practice, after which students should obtain mastery at the 95 percent level; and

6. reviewing skills and information weekly and monthly.

Other researchers have applied the effective schools research model to bilingual schools. Carter and Maestas (1982), for example, have reported that teachers and administrators in effective bilingual schools do the following:

- teach English as the primary objective,
- treat the two languages as equally important,
- stress basic skills in both Spanish and English,
- maintain high expectations for academic achievement,
- demand diligent study,
- organize programs that detail goals and objectives,
- monitor individual academic achievement,
- have planned measures to correct weaknesses,
- include cultural and experiential realities drawn from the community,
- employ teachers who are excellent language models in one or both languages, and
- believe bilingual education is effective in raising academic achievement.

Tikunoff (1982), in a longitudinal study of effective bilingual programs, also documented effective bilingual teacher behaviors. According to his research, effective bilingual teachers do the following:

- emphasize basic skills;
- focus on developing L1 and L2;
- engage students in task completion;
- monitor student progress;
- provide frequent, immediate feedback; and
- communicate task and instructional demands.

According to Tikunoff (1987), the person most responsible for bringing about an effective school environment is the principal.

The second part of the theoretical framework is taken from the empirical principles that guide bilingual education. These principles have been carefully summarized by the California State Department of Education (OBBE, 1982). They are as follows:

1. For bilingual students the degree to which proficiencies in both L1 and L2 are developed is positively associated with academic achievement.
2. Language proficiency is the ability to use language for both academic purposes and basic communicative tasks.
3. For language minority students the development of the primary language skills necessary to complete academic tasks forms the basis for similar proficiency in English.
4. Acquisition of basic communicative competency in a second language is a function of comprehensible second language input and a supportive affective environment.
5. The perceived status of students affects the interactions between teachers and students and among the students themselves. In turn, student outcomes are affected.

Finally, the theoretical framework incorporates some of the proven principles from special education. A review of the special education literature shows that the following strategies and principles have proven effective with handicapped students:

- instruction in the least restrictive environment;
- individual planning of instruction;
- instruction focusing on student abilities;
- use of a learning strategies approach to remediation;
- instruction through specially and highly trained special education personnel; and
- parental involvement in all aspects of the program.

The above discussion related to theoretical frameworks can be summarized as follows: The sociopolitical insights of Cummins and his empowerment theme constitute a very useful broad framework for preventing mild and moderate socially constructed handicapped designations and services for CLDE students. His perspective is also helpful for promoting more effective advocacy oriented assessment and effective prereferral interventions. The Baca and Cervantes synthesis of the effective schools/instruction integrated with the major validated principles of bilingual and special education pedagogy is also very useful. It constitutes a framework for designing and implementing a broad continuum of bilingual/cross cultural special education programs and services in a range of politically and educationally diverse settings. The principles articulated by Ruiz constitute an effective guide for implementing enriched, challenging and effective literacy instruction at the bilingual/cross cultural special education classroom level.

Over/Under Representation

The literature of the past twenty-five years documents the fact that culturally and linguistically different (CLD) students from several racial and ethnic groups have not had equitable treatment from special education. African American, American Indian, and Hispanic students have been overrepresented in classes for the mildly and moderately handicapped. Asian students have not been overrepresented. The special education categories involved include mental retardation, learning disabilities, speech and communication disorders, and emotional disturbance. Although modest progress has been reported relative to this problem, it remains a major issue. While educators have struggled to rectify this problem, a new problem of under representation began to emerge about twelve years ago (Ovando & Collier, 1985; Ima & Rumbaut, 1989) involving the gifted and talented and the more severe levels of mental retardation, emotional disturbance, speech and communication disorders, other health impairments and multiple handicaps. Chinn and Hughes have indicated that, according to data published by the Department of Education's Office for Civil Rights (OCR), Hispanic students were under represented in classes for the gifted and talented and for the mentally retarded from 1978 to 1984. They were also under represented in classes for the emotionally disturbed from 1980 to 1984. Hispanics were under represented in programs for the speech impaired between 1978 and 1984. It has been suggested by Baca and Cervantes (1989) that the phenomenon of under representation may be related to the expansion of bilingual and other categorical programs which may have become in certain situations alternative placement for CLDE students. Although the field is experiencing problems with both over and under representation, the major problem, by far, continues to be over representation.

The President's Commission on Mental Retardation (1969) brought this problem public awareness with the publication of "The Six Hour Retarded Child." This report, along with Larry P. v. Riles (1979, 1986), focused primarily on African American students. The Lau decision cited above centered on Asian students. The Mexican American Education Study (1971), Diana v. California (1970) and numerous other reports and court cases have continued to address this chronic problem as it affects Hispanic students. American Indian students both on and off reservations are without any question the most educationally neglected and underserved population in our schools today.

In the sixties and seventies most of the over representation was concentrated in classes and programs for the mildly retarded (Mercer, 1973). In the eighties, however, the over representation shifted to the categories of learning disabilities and communication disorders (Ortiz & Yates, 1983). Ortiz also found that the placement of Hispanics in learning disabilities and communication disorders programs was related to whether a learning disability specialist or a speech and language specialist was involved in the staffing decision.

A major reason for the over representation of bilingual students in special education continues to be inappropriate referral and assessment practices. Jones (1976) summarized the assessment aspect well when he stated that bias is involved at three different levels:

1. at the content level where the decisions are first made about what items to include in a test,

2. at the level of standardization where decisions are made about the population for whom the test is appropriate, and

3. at the point of validation where efforts are undertaken to determine whether or not tests accomplish what they have been designed to accomplish.

Other important factors contributing to over representation are examiner bias, uneven preparation of diagnostic personnel, language and/or cultural mismatch between diagnostician and student, and the strong tendency of regular classroom teachers to refer difficult to manage or teach students. Perhaps the most important factor is the lack of strong and consistent prereferral polices and practices by regular education personnel.

Although significant numbers of language minority students continue to be inappropriately placed into special education programs, a sizable number of these students have significant learning and behavior problems that do indeed qualify them for special education. It is for this population that bilingual/cross cultural special education services are necessary.

Assessment

Assessment may be defined as the evaluation of all relevant aspects of a child's behavior and environment for the purposes of classifying the child for placement and acquiring information relevant to planning and evaluating (Oakland & Matuszek, 1977). It should be pointed out that assessment is broader than testing and as such encompasses informal and nonpsychometric approaches as well as standardized norm referenced modes of assessment. Assessment is definitely the issue that has received the greatest degree of attention of all the topics in the field of bilingual special education (Plata, 1982; Mowder, 1980; Ambert & Dew, 1982). Assessment can be divided into three separate areas: psychological assessment, language assessment, and educational assessment. Figueroa (1989) has conducted an extensive review of the literature on psychological testing of minority students and has stated that the existing practices in school psychology related to IQ testing have not changed much over the past seventy years. The major findings he reported documented the following:

1. Nonverbal IQs were always higher than verbal IQs; nonverbal IQs were considered free of language and culture and hence a measure of innate ability;

2. Nonverbal IQs were not found to be as effective in predicting academic achievement as verbal IQs;

3. The impact of bilingualism on test scores was consistently ignored.

4. The translation of tests became the most desired solution.

5. Anomalous data on testing bilinguals has been systematically discarded (Figueroa, Innovative approaches research project technical proposal, 1988).

These findings are predicated on and closely tied to a norm referenced psychometric model. Attempts to correct or adapt this traditional model have failed. The most well known and significant of these efforts was undertaken by Mercer (1979) when she developed the System of Multicultural Pluralistic Assessment (SOMPA). Today, however, Mercer believes that the psychometric model is intrinsically flawed and cannot be successfully adapted for use with language minority students (Mercer, 1986).

In a recent article on the psychological testing of linguistic minority students, Figueroa (1989) challenges school psychologists to engage in a major paradigm shift or to continue to engage in what some consider to be malpractice. In effect, what is needed is movement toward new and dynamic models for measuring intelligence (Duran, 1989; Campione, Brown & Ferrara, 1982). Figueroa (1988) proposes a new model based on the information processing research of Campione, Brown and Ferrara (1982). These researchers believe that the building blocks of intelligence are speed of processing, knowledge base, strategies, metacognition, and executive control. Figueroa maintains that the use of these constructs requires a shift of focus from standardized psychometrics to modifications of learning environments, such as the approach used by Feuerstein (1979) in the Learning Potential Assessment Device (LPAD). In this type of model, the growth from unassisted performance to mediated or assisted performance (Vygotsky's Zone of Proximal Development, 1978) can be measured. For the LEP student, this type of assessment is a much more accurate measure of the upper range of his or her ability (Ruiz, 1988; Budoff, Gimon & Corman, 1974).

Language assessment of high-risk students is also of critical importance within bilingual/cross cultural special education. Research in this area continues to document the difficulty that teachers and clinicians have in distinguishing between a language difference and a language disability (Cummins, 1984; Ortiz & Polyzoi, 1987; Langdon, 1989). The use of standardized and discrete point language assessment approach has proven inadequate in assessing the dual language abilities of bilingual students (Lee, 1989; Bernstein, 1989; Langdon, 1989). As a result, a growing number of speech and language specialists are advocating the use of non standardized and informal assessment alternatives for high-risk language minority students from diverse language groups (Bernstein, 1989; Mates & Omark, 1984; Oller, 1983). These more appropriate approaches to language assessment utilize more naturally generated language samples to assess language pragmatics or functional communicative competence. When a naturalistic approach is used for assessment, the language specialist can describe the quality of communication between the student and other speakers in a variety of contexts including the home and community. Cheng (1989) has developed a checklist that has been used successfully with Asian and other language minority students. Damico (in press) is also doing pioneering work along these lines.

Educational assessment could be viewed as the most important area of assessment of high risk or CLDE students because it is so universal and pervasive and because it is much more closely, or at least potentially, related to instruction. Another reason for its importance is that it occurs before language and psychological assessment. Because educational assessment generally occurs within the regular education context, there is potential for prereferral intervention and student advocacy as a potential benefit of this type of assessment.

Traditional standardized, norm referenced educational achievement tests have been steadily criticized for the past twenty years as inappropriate and invalid for use with language minority students. Item bias and norming bias have been discussed at length in the literature. Duran (1988) also pointed out that existing testing practices are limited in validity and reliability for Hispanic students because of factors such as limited English proficiency, lack of familiarity with the content of the test items, lack of cultural sensitivity of the test administrators, and the lack of test taking strategies on the part of the students. Cummins (1984) has also shown that achievement tests do not provide specific feedback to teachers for instructional purposes.

Because of these limitations of norm referenced tests special educators have promoted the use of criterion referenced and curriculum based assessment instruments and procedures. These tests do provide more instructional direction to both teachers and students. It is for this reason that tests such as the Brigance have become so popular for bilingual special educators. Duran (1989) indicates that even these instruments and approaches are limited because they are not based on explicit cognitive process models of learning that offer "on-line" advice to students during the very act of learning. In an attempt to provide a more effective educational testing approach, Duran (1989) calls for the use of a dynamic assessment approach he refers to as "reciprocal teaching." Dynamic assessment establishes a strong link between testing and teaching. It utilizes a test, train, test procedure that encourages the teacher to be a diagnostic teacher who uses clinical judgment in the evaluation of student performance.

Prereferral Intervention

The term "prereferral" is used to refer to the time period after an indication by a teacher or a concerned person that the student has some kind of learning or behavior problem but before a formal referral for staffing occurs (Baca, Collier, Jacobs, & Hill, 1990). Prereferral intervention is generally divided into types. That include school-based problem solving teams and consultation by special education teachers (Pugach & Johnson, 1989). Prereferral committees have a variety of titles in different parts of the country. They are often referred to as child study teams. These child study teams should operate under the auspices of regular education (Pugach & Johnson, 1989) and should include bilingual and ESL personnel. If a special educator or a speech and language specialist is involved, it should not be as chair of the committee but as a consultant to the team of regular classroom personnel. It is unfortunate that the term prereferral has become so popular among educators because it perpetuates the mind set that referral and placement will soon follow.

The most basic and essential element of prereferral intervention is the implementation of alternative curriculum and instructional interventions or behavioral management approaches within the regular monolingual or bilingual instructional setting. When the intervention occurs under the official auspices of special education it can no longer be considered a prereferral intervention.

The high-risk or CLDE student could have learning or behavior problems that stem from external factors, such as the learning environment, the teacher, or the curriculum. On the other hand, the learning or behavior problems could also be related to internal factors, such as a language difference, a cultural difference, a handicapping condition, or a combination of these factors. It is also very likely that a combination of these factors needs to be addressed within an ecological framework or intervention model.

A major goal of prereferral intervention is to identify and implement a series of instructional and behavioral interventions within the regular or bilingual/ESL classroom. All too frequently the problem can be ameliorated at this level without the formal services of special education or bilingual special education. Differences in experiential background and previous school settings could be resolved by providing cognitive learning strategy interventions and curriculum modifications that are culturally and linguistically based. Difficulties stemming from acculturative stress could be resolved through cross cultural counseling, peer support groups or training in cultural survival techniques. Learning problems associated with limited English proficiency could be resolved by language development interventions such as ESL instruction, native language development, and bilingual assistance and instruction. At the very least a formal referral of a high-risk CLD student should not occur without first considering the following variables: (a) time for adjustment, (b) familiarity with the school system and language, and (c) cultural differences. Ortiz (1984) maintains that errors in determining LEP students' education needs occur most frequently when teachers and other school personnel lack an understanding of second language acquisition and educationally relevant cultural differences. Thus, it is essential that more research be conducted to determine how classroom teachers actually decide to refer students into special education and what attempts they make at prereferral interventions prior to formal referral.

Prereferral intervention has been identified as a major component of bilingual/cross cultural special education (Ortiz, 1989). Ortiz and her colleagues at the University of Texas have reported on the effectiveness of prereferral interventions with CLDE students in the San Marcos School

District in Texas. This research project, known as the AIM FOR THE BEST project, was funded by the Office of Bilingual Education and Minority Languages Affairs (OBEMLA). It should be noted, however, that the problems facing bilingual/cross cultural special education are not unique to this new field but are related to major problems facing both regular and special education (Rueda, 1989). Along these same lines, Pugach and Johnson (1989) point out that prereferral intervention represents merely one level of change needed if schools are to accommodate students with problems. Changes will also be required in school structure, teacher education, and school reform.

Research and Evaluation

Early research in this new field came out of the parent and related disciplines such as regular, special and bilingual education along with traditional disciplines such as anthropology, psychology, linguistics and sociology. Practitioners and scholars in the field began by extrapolating and applying the theories and findings from these areas to the CLDE student. Likewise information from these fields became the building blocks for designing services and programs for this unique population of learners. For example, one of the classic studies quoted in the early bilingual special education literature is taken from the bilingual education work of Malherbe (1969), who reported that the children involved in the bilingual schools in South Africa performed significantly better in language attainment (in both languages), geography, and arithmetic than comparable monolingual children. This study was considered significant to the CLDE population because it was one of the few studies up to that time that had controlled for intelligence. In his report, Malherbe stated:

> There is a theory that while the clever child may survive the use of the second language as a medium, the duller child suffers badly. We therefore made the comparison at different intelligence levels and found that not only the bright children but also the children with below normal intelligence do better school work all around in the bilingual school than in the unilingual school. What is most significant is that the greatest gain for the bilingual school was registered in the second language by the lower intelligence groups.

A related investigation by Buddenhagen (1971) is cited by McLaughlin (1984). In this situation initial language acquisition at the age of eighteen was reported for a mute Down's syndrome student. Baca and Bransford (1982) summarized the findings of five program evaluation studies that reported significant gains on the part of CLDE students in bilingual special education programs. The major results of these studies were the following:

1. Lesser (1975): Spanish speaking handicapped students in New York made significant reading gains.

2. Project Build (1980): This Title VII program in New York reported that a combined bilingual and special education resource room was meeting the needs of bilingual special education students with significant results.

3. Weiss (1980) reported significant language and learning gains for three-to five-year-old CLDE in a bilingual handicapped children's early education program (HCEEP) in Colorado.

4. McConnell (1981) reported statistically significant gains for Spanish-speaking migrant students in a bilingual oral language program among both high and low ability students.

5. Evans (1980) reported on eighteen programs throughout the central United States that reported initial success in educating bilingual handicapped students.

OBEMLA sponsored a study of mainstreamed LEP handicapped students in bilingual education. In the final report, Vasquez, Nuttall, Goldman, and Landurand (1983) described the purpose of this study as an attempt to determine how bilingual educators are coping with the LEP handicapped children mainstreamed in elementary school bilingual education programs. This descriptive study of twenty-one local school districts from all regions of the United States focused on three areas: 1) identification, assessment and placement; 2) instruction of mainstreamed LEP students in bilingual classrooms; and 3) inservice training for the staff serving these students. In summary, the major results they reported were as follows:

1. LEP handicapped students are identified and placed in bilingual special education programs via the IEP process when there are bilingual special education services available to them (33 percent of the time in this study).

2. When bilingual special education services are not available, children tend not to be identified as handicapped and remain the responsibility of regular bilingual education.

3. For non-Hispanic LEP handicapped students, bilingual special education programs are rare, and these students tend to receive ESL rather than native language instruction.

4. Most districts reported that they did not refer LEP students to special education without first modifying their regular bilingual instructional program.

5. Testing approaches most used were the common culture, nonverbal, and test translations. Only one-third reported using the newer, less biased multipluralistic approaches.

6. Most of the LEAs allowed handicapped LEP students to stay in bilingual programs longer than nonhandicapped LEP students, up to five years in three of the districts.

7. LEP students who may be handicapped but who have not been placed in special education are monitored by the bilingual program utilizing bilingual education criteria.
8. Bilingual teachers use regular bilingual curriculum and materials with LEP handicapped students.

9. Most bilingual teachers reported that they adapt their instruction for the LEP handicapped by simplifying instructions, providing more repetition, designing worksheets with larger print and fewer words.

10. None of the bilingual directors gave evidence of having focused specifically on the curricular needs of handicapped LEP students.

11. Inservice training is greatly needed for both special education teachers and bilingual teachers to be able to understand and work with LEP handicapped students.

12. The best bilingual special education programs and leadership have been developed through the bilingual program.

13. Most LEAs have not found effective ways of training LEP parents to become involved in the education of their handicapped children.

14. There is a shortage of bilingual special education instructional and ancillary personnel.

15. It appears that there is under representation of LEP students in special education for thirteen of the twenty-one districts studied.

In the early 1980s, the Office of Special Education and Rehabilitative Services (OSERS) sponsored two Minority Handicapped Research Institutes in

California and Texas. The research conducted through these two projects represents the first formal and systematic research agenda related to bilingual special education. The research was carried out by the University of Texas at Austin under the leadership of Alba Ortiz and by the Southwest Educational Laboratory in Los Angeles under the direction of Robert Rueda. A synthesis of this information was compiled by Richard Figueroa (1989) and is summarized in the following table.

Table 1

Summary of Findings from the Texas and California Handicapped Minority Research Institutes

Assessment

1. Language proficiency is not seriously taken into account in special education assessment.
2. Testing is done primarily in English.
3. Language (L2) problems are misinterpreted as handicaps.
4. LD and CH placements have replaced the EMR misplacement of the 1960s and 1970s.
5. Psychometric test scores from Spanish or English tests are capricious in their outcomes though paradoxically internally sound.
6. Special education placement leads to decreased tests scores.
7. Home data are not used in assessment.
8. The same few tests are used with most children.

Instruction

1. The behaviors that trigger teacher referral suggest that English language acquisition stages and their interaction with English-only programs are being confused for handicapping conditions.
2. Few children receive L1 support before special education, even fewer during special education.
3. The second and third grades are critical for bilinguals in terms of potentially being referred.
4. Prereferred modifications of the regular programs are rare and indicate little L1 support.
5. Special education produces little academic development.
6. The few special education classes that do work for bilinguals are more like good regular bilingual education classes (whole language emphasis, comprehensive input, cooperative learning, student empowerment) than traditional behavioristic, task analysis drive, worksheet-oriented special education classes.

More recently Rueda (1984) and Goldman and Rueda (1988) reported positive outcomes for bilingual exceptional children related to metalinguistic awareness and writing skill development. In the latter study, Goldman and Rueda conclude that it is likely that a critical feature of writing instruction for the CLDE student is the establishment of an interactional context that can provide the appropriate scaffolding for the student to advance. They argue that bilingual exceptional children should be allowed to bring their own material and native language into the classroom.

In a recent article, Harris, Rueda, and Supancheck (1990) describe literacy events in secondary special education in linguistically diverse high schools in California. This ethnographic study of fifteen classrooms in three high schools in Southern California found the following: English was the preferred language of instruction and print materials; instruction occurred primarily within two interactional structures (i.e. teacher and student and student working alone with no peer interaction); and interaction was dominated by the teacher and involved the traditional initiate-respond-evaluate cycle with no student initiated interaction reported.

It appears that the research and evaluation studies in this emerging field have not always emerged from an established theoretical framework. It would seem important that future studies be grounded in an established theoretical framework and as a result continue toward the enhancement and validation or rejection and development of alternative theoretical perspective.

There are two notable exceptions to this discontinuity between theory and research and evaluation studies. The first is the work of Alba Ortiz and her colleagues. Her project, AIM FOR THE BEST, is in San Marcos, Texas. This work has emerged to a great extent from Cummins' theoretical perspective. The comparative inservice training with all staff members of San Marcos schools will hopefully go a long way in furthering a preventive approach to special education through the implementation of a strong and effective prereferral model.

The work of Figueroa, Rueda, and Ruiz in their development of the OLE model of instruction is also consonant with holistic and interactive approaches to instruction and with the findings on effective instruction.

Suggestions for Practitioners

Because bilingual special education is relatively new within our schools, there is still a lack of research and empirical evidence upon which to make exhaustive and detailed recommendations to teachers and other educators. Nonetheless, it is possible to suggest general principles and approaches as well as emphases that are consistent with our current knowledge base and state of the art. The following suggestions are offered:

1. Stress prevention of handicapping conditions for LEP students by emphasizing cultural and linguistic pluralism and academic excellence within regular education.
2. Strengthen the capacity of regular educators in meeting the needs of at risk language minority students. This could be done through improved preservice and inservice training that includes native language and ESL models and approaches as well as techniques for serving these students.
3. Provide support and training for the parents of at risk language minority students before their children begin to experience frustration and failure in the regular classroom. Parent training, involvement and empowerment will, in the long run, result in improved student performance.
4. Prioritize the need for strong and effective prereferral models and interventions under the auspices of regular bilingual and ESL programs.
5. Implement an assessment process that is student advocacy-oriented and naturalistic as opposed to psychometric and administrative in orientation.
6. Utilize dynamic, process-oriented assessment models, including ecological and curriculum-based assessment along with diagnostic and analytic teaching approaches to assessment.
7. Use diagnostic placements in optimal instructional settings as alternatives to excessive and costly individualized testing approaches.
8. Hold high expectations for at-risk and CLDE students by providing an enriched, challenging optimal learning environment and curriculum.
9. Utilize the students' native language and culture as valuable teaching resources to promote the maximum cognitive and affective development.
10. Stress the acquisition of English by providing comprehensible ESL instruction that is natural and that stresses communication.

11. Utilize an interactive rather than a transmission model of instruction within the regular as well as the bilingual special education classroom.

12. Incorporate a rich whole language approach that utilizes culturally meaningful material to teach reading and writing.

13. Promote the use of cooperative learning opportunities within the bilingual special education as well as the mainstream class setting.

14. Prioritize the need for effective consultation and collaboration by teams of bilingual and monolingual mainstream teachers with special education and bilingual special education teachers.

15. Support the regular education initiative and provide bilingual special education services within the least restrictive and mainstream educational environment to the greatest extent possible.

Concerns for Policy Makers

School board members, together with central office and building administrators, establish educational and instructional polices. This is usually done in cooperation with legislators, parents and teachers. For the past several years, the educational reform movement has generated numerous reports concerned with reconceptualizing educational policy and practice for the twenty-first century and beyond. This movement provides an excellent opportunity for focusing attention on the "triple threat" CLDE students that have for the most part fallen through the large cracks of our education establishment. Given this timing and opportunity, the following issues, which directly affect high-risk and CLDE students, need policy discussion, formulation and implementation.

1. Major demographic shifts related to the ethnic and linguistic diversity in our schools.

2. The impact of social problems, such as poverty, gang violence, drug use, and family stress on our schools and on the increasing numbers of students who can be classified as handicapped and in need of special education services.

3. The lack of meaningful participation of culturally and linguistically different parents and community members in our schools and in the academic preparation of their children.

4. The severe shortage of minority and bilingual teachers, administrators, and other education personnel.

5. The lack of public and private monetary and moral support for education in general and particularly bilingual and bilingual special education.

6. The lack of administrative as well as instructional coordination of programs and services for at-risk students both in regular and special education. Also, included here is the lack of cooperation among Chapter I, special education, and migrant education.

7. The lack of adequate policies to guide educators and parents in their efforts to provide an optimal education for CLDE students.

8. The lack of sufficient alternatives and flexibility in conducting nonbiased and native language assessments of CLDE students.

9. The lack of capacity in special education to communicate effectively with and teach LEP students in their native language or with effective second language methods and curriculum.

10. The absence of a strong, systematic ongoing research agenda concerning the basic and applied issues in to the education of CLDE students.

Recommendations for Continued Research

Theoretical and applied research bilingualism, second language acquisition, and various aspects of bilingual education has slowly increased over the past fifteen years. On the other hand, research focused specifically on bilingual special education issues is only in the beginning stages. It is thus of utmost importance that both theoretical and applied research and evaluation studies be supported in the future.

Basic research related to CLDE students is needed on the following topics or issues:

1. the cognitive and metacognitive development of the mildly, moderately, severely, and profoundly handicapped LEP student within the various handicapping conditions;

2. the relationship between language and cognitive development for the mildly, moderately, severely and profoundly handi-

capped LEP student within the various handicapping conditions;

3. first and second language acquisition for the mildly, moderately, severely, and profoundly handicapped LEP student within the various handicapping conditions; and

4. the personality and affective development of the LEP student in terms of identity, self-esteem and self-concept in a variety social and academic domains.

Descriptive research is also needed to identify the impact of social and health issues on at-risk and CLDE students, their families, schools, teachers and instruction. For example, studies are needed to explore the following issues:

1. the impact of racism, ethnocentrism, sexism, classism and discriminatory behavior on the handicapped LEP students' education experience;

2. the impact of inadequate nutrition and health care on the education of handicapped LEP students;

3. The impact of drugs and alcohol on newly born, preschool, and school age handicapped LEP students; and

4. the impact of war trauma and gang violence on the education of LEP handicapped students.

Descriptive and ethnographic as well as quasiexperimental evaluation studies are needed to determine the characteristics of effective schools and instructional practices for LEP handicapped students. Included here should be short-term and longitudinal studies on the following topics:

1. the impact of interactional versus transmission models of bilingual and ESL instruction on LEP handicapped student achievement outcomes;

2. the impact of effective prereferral models of instruction on the academic and affective outcomes of LEP handicapped students in mainstream settings;

3. the impact of various types of mainstream and resource room placements and services on LEP handicapped student achievement outcomes;

4. the impact of various forms of self-contained bilingual special education placement and instruction on LEP handicapped student achievement outcomes;

5. the impact of a dynamic and instructionally oriented advocacy model of assessment prior to and during the special education placement of LEP handicapped students;

6. the impact of a strong parent and community involvement component in a bilingual special education program on LEP handicapped student achievement outcomes; and

7. the impact of a strong family literacy component in a bilingual special education program on LEP handicapped student achievement outcomes.

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CHILDREN'S SOCIOPSYCHOGENESIS OF LITERACY AND BILITERACY

Barbara M. Flores

INTRODUCTION

Within the last decade our knowledge about how children come to know written language has revolutionized our thinking. The intellectual traditions that have been pivotal are primarily the sociopsycholinguistic (Goodman & Goodman, 1976, 1978, 1981; Goodman, Y. & Altwerger, 1981; Goodman, Y., 1984, 1985, 1986; Halliday, 1975, 1978; and Smith, 1975, 1978, 1984, 1986); sociocultural (Vygotsky, 1962, 1978; Diaz, Moll, & Mehan, 1984; Moll & Diaz, 1981; Cole & Scribner, 1980); psychogenetic (Ferreiro & Teberosky, 1979, 1982; Ferreiro et al., 1982; Ferreiro, 1984, 1986); and sociopolitical (Freire, 1970, 1973, 1986) paradigms. These four intellectual traditions have given us (whole language teachers, teacher educators, researchers, teacher/researchers, administrators, and parents) the knowledge to revalue, reorganize, facilitate, deliberately guide, monitor, and document our children's literacy and biliteracy acquisition.

In the last six years, we (author and bilingual teachers) have participated in evolving our understanding and shifting our paradigms about how children come to know written language based on the Goodmans' sociopsycholinguistic theory about literacy; Halliday's social semeiotic theory of language development; Vygotsky's social historical theory of the social construction of knowledge; and Ferreiro's and Teberosky's evolving and grounded psychogenetic theory about written language. Most importantly, Freire's (1970) social political philosophy of learning and teaching has advanced the reorganization and paradigm shift from a "transfer of knowledge" pedagogy to a more empowering pedagogy.

Our findings, not only of one particular classroom but of many others whose detailed analyses have yet to be done confirm these theoretical and research paradigms in the praxis of daily uses of oral and written language for genuine purposes within authentic social contexts (Freire, 1970) in school. The praxis of these theories in action and actions guided by theory has significant pedagogical implications for the learning and teaching of literacy and biliteracy that are revolutionary.

Purpose

This paper will present (a) a discussion of the social context in which the teacher and children are mutually engaged, which explains the sociocultural, sociopsycholinguistic, and sociopolitical knowledge bases that the teacher uses; (b) an explanation of the psychogenetic theory of the alphabetic writing system; and (c) the interpretive analysis of one bilingual whole language first grade's literacy and biliteracy sociopsychogenesis. This particular bilingual whole language teacher implemented the praxis of theory in action from the intellectual traditions of the four paradigms are generated, through appropriation, new knowledge about how bilingual children learn the alphabetic languages of Spanish and English in a schooling context.

The findings presented here are based on preliminary analyses of these bilingual children's literacy learning and cognitive development in the social context of interactive dialogue journals. Our longitudinal data base includes monthly samples (September through May) of 30 children's interactive journal entries (270 pieces of written text). We will demonstrate how first grade bilingual five- and six-year-olds engage in the social-cultural process of recreating knowledge (Shor & Freire, 1986) about the alphabetic writing system in both Spanish and English.

Social Context

In this particular whole language bilingual classroom, language (oral and written or first or second) is used for authentic communication (Flores & Garcia, 1984; Stanton, 1984; Edelsky & Draper, 1986; Edelsky, 1986) within social contexts. One particular authentic use of written language is entered in daily interactive dialogue journals. In this particular whole language classroom, interactive dialogue journals are used principally for personal communication between the teacher and each child. Each day every child is expected to choose a topic and write an entry in his/her journal. The child can share feelings, opinions, likes and dislikes, experiences, dreams, etc. Each child may also choose to draw an illustration as well. When the child is finished, he/she reads the entry to the teacher as the teacher may not yet be able to read the child's symbolic representation of meaning. The child, in turn, also mediates his/her meaning of the written text by using both illustration and oral language.

This social semeiotic (Halliday, 1978; Vygotsky, 1978) involves the use of multiple sign systems that are routinely used and orchestrated by children and teachers in bilingual whole language classrooms. After the child has mediated his/her message, the teacher responds both orally and in written form with a genuine commentary about the topic or meaning the child has conveyed. As the teacher (the expert user of the alphabetic writing system) is writing, she/he is not only mediating meaning by reading aloud as he/she writes but is also demonstrating knowledge about the alphabetic writing system to the child (a novice user of the alphabetic writing system). Simultaneously the teacher is deliberately creating a zone of proximal development (Vygotsky, 1978).

During this communicative encounter, the child, in turn, is observing, with his/her current conceptual interpretation of written language, the teacher in the process of generating, using, and transacting with all the cuing systems: pragmatic, semantic, syntactic, graphophonemic, and orthographic (Goodman, 1984; Carey,1980). The interactive dialogue journal initially appears to be an "assigned" task; it soon becomes an authentically shared communication between the children and the teacher. The children at first do not understand that it's okay to write their way, but with repeated encouragement and consistent, genuine responses, they come to accept and participate in this communicative encounter. This tenor (Halliday, 1978) allows the child to experiment, to play, to take risks, and most importantly to make hypotheses. Through experimenting, taking risks, and making hypotheses, the children use language as a means in the social construction and recreation of knowledge, specifically written language.

The child's and teacher's goal is for the child to learn the adult's alphabetic interpretation, but with the understanding that the child's evolving conceptual interpretations are legitimate displays and uses of knowledge about the writing systems of Spanish and English. By using multiple sign systems, both teacher and child are able to value each other's knowledge of written language. More importantly the child knows that it's okay to write his/her way because he/she is not yet able to write as adults do, but some day will be able to do so. Also, by initially constructing the social context in this particular way, the teacher organizes for the social construction of knowledge by mediating and by deliberating setting up zones of proximal development (Vygotsky, 1978).

The social organization (the social contexts) for learning and teaching literacy and biliteracy is the most crucial underpinning for facilitating the children's coming to learn the alphabetic writing system in Spanish and English. Without this understanding and social political praxis, literacy teaching would remain the same "transfer of knowledge" pedagogy (Freire, 1987) that is the status quo throughout the United States. In this particular bilingual whole language classroom, literacy learning and teaching take a dramatic paradigm shift away from the status quo. By status quo, we mean the teaching of literacy and biliteracy in isolated and meaningless bits and parts. Freire (1970) calls this "banking education," whereby the teacher is the holder of all knowledge and the children are the passive receptacles. In a whole language classroom the teacher is no longer the sole holder of knowledge. In contrast, the children are actively engaged in the social construction of knowledge by using it for authentic purposes (Freire, 1970).

The Psychogenesis of Literacy

Ferreiro and Teberosky (1975) have been grounding a psychogenetic theory of Spanish-speaking children's evolution of knowledge about written language. This knowledge about how children learn the alphabetic writing system is very key in monitoring, facilitating, and documenting the children's evolution of knowledge. This psychogenetic knowledge along with the sociocultural and sociopsycholinguistic knowledge gives the teacher the necessary tools and understanding to teach literacy and biliteracy to bilingual children more successfully than when the teacher used the status quo literacy curriculum. Additionally, it is the praxis (Freire, 1970,1975, 1986) of these theoretical frameworks that creates the social political context for a pedagogy of empowerment.

Ferreiro, et al. (1982) and Ferreiro and Teberosky (1979, 1982) delineate four possible conceptual interpretations or writing systems that the children may use. At one time, they called them "niveles" or levels that were psychogenetically ordered (i.e., children would progress from a presyllabic conceptual interpretation to a syllabic one). Then from the syllabic interpretation, they would evolve to a syllabic/alphabetic one. Finally, they would use an alphabetic conceptual interpretation of Spanish which approximates the adult cultural expectation. These four conceptual interpretations were categorized into four writing systems: presyllabic, syllabic, syllabic-alphabetic, and alphabetic. However, Ferreiro (1986) has now collapsed the evolutionary progression into three major periods.

Initially Ferreiro and Teberosky (1979 & 1982) had posited
that children between the ages of four and six would progress through this psychogenetic order. However, our data demonstrate, as well as the work of Ferreiro and Gomez Palacio (1982), that children between five and seven years old may not necessarily progress in this psychogenetic order. Our data suggest that most but not all children progress in this order. For example, we found instances in which (a) children may be using all four conceptual interpretations in one journal entry; (b) children might be using the presyllabic interpretation one day and then the very next day use the alphabetic conceptual interpretation; or (c) children may perhaps use the alphabetic system sporadically one day and then retreat to using the syllabic writing system exclusively the next few days or weeks. They might also stay in one of the writing systems until they were challenged or deliberately put in disarray. During this collective, but individual act of daily interpersonal communication (e.g., during journal time), we have also observed that all the children share knowledge about the writing systems. Thus, another interactive situation for the social construction of knowledge has been cocreated and cosustained.

Before explaining and demonstrating the three phases or periods that Ferreiro (1986) has proposed, we want to emphasize that without actually engaging in the act of interactive journal writing as described above, one cannot really understand or appreciate the complexity of thought-in-action that the children

are experiencing. Also, without actually seeing and interpreting the children's written representation of meaning in the act, one cannot value the enormous amount of knowledge that children already have about written language before schooling.

During the first period, the children are engaged in the presyllabic writing system (i.e., they begin to use symbols that approximate our adult symbols — letters). However, prior to this stage, the children have been engaged in drawing. And in the drawing the symbols take the shape of the contours of the object whereas in written languages the characteristics are arbitrariness and linearity (Ferreiro, 1986). Once the children begin to make this distinction between drawing and writing, we begin to see "strings" of letters. But they are more than "strings" of letters. According to Ferreiro (1986) this is a major breakthrough for the children.

According to Ferreiro (1986, p. 5), in the "second period" of development the children are engaged in "the construction of modes of differentiation between pieces of writing through a progressive control over the qualitative and quantitative variations" of written language.

> The children are not yet analyzing sound patterns of the word, but are working with the linguistic symbols as a totality (meaning+sounds). One hypothesis that they are testing is: Are the variations in the amount of letters related to variation of quantifiable aspects of the referred object? That is, does one represent the object with more letters because it is big and with fewer letters because it is small? or more letters for a group of objects and less letters for a single one? or more letters for an older person and fewer for a child? etc. (Ferreiro, 1986, p. 5)

The children are also establishing a maximum and minimum number of letters for nouns, reports Ferreiro. The children usually maintain "a minimum of at least three letters but no more than seven or eight." We have also observed this in our English and Spanish-speaking children in the Southwestern United States.

During the last period, Ferreiro (1986) reports that the children engage in a "phonetization of the written representation." The three distinct areas for Spanish-speaking children are a syllabic period, a transition period (syllabic/ alphabetic), and an alphabetic period. It appears that Ferreiro (1986) is now demarcating the children's evolution of their conceptual interpretations of written language based on the children's macrodistinctions (e.g., in the last period); the use of oral language (phonetization) with written language is a major consideration, whereas, for the first period it is the distinction between drawing and writing. For the second period it is the child's major distinction between "pieces of writing through a progressive control over the qualitative and quantitative variations."

> From a cognitive point of view, the syllabic period represents the first attempt to deal with a very important and general problem: the relationship between the whole (a written string) and the constituent parts (the letters themselves). The ordered parts of the word (its syllables) are put in a one-to-one correspondence with the ordered parts of the written string (its letters) (Ferreiro, 1986, p. 7).

With our children, we have observed that initially during the syllabic period the children usually use one arbitrary letter for a syllable consistently. However, we have found that if we are not present when the child is generating the written text, we might mistake the written text for a mere "string of letters." At other times, the same children who represented their "written string" with no attention to sound/letter qualities may indeed begin to use some sound/letter correspondence. For example, our Spanish-speaking children may represent "gusta" by writing "ua" or "escritorio" as "eioio." Basically they appear to hear the sound qualities of the vowels and select to represent the "written string" syllabically using more vowels than consonants. With the English-speaking children, we have found that at this syllabic period, they begin to represent their "written string" with more consonants than vowels. For example, we have observed the children using initial consonant sounds for monosyllabic words, such as, "l" for "like", or "m" for "my."

When using a syllabic/alphabetic conceptual interpretation, the children may represent "gusta" as "guta" or "usta." During this transition, the children are still mixing the use of a syllabic representation with an alphabetic one. When the children begin to write alphabetically, they are applying the alphabetic principle that "sound similarities" imply "letter similarities." This need to represent everything that children hear seems to persist until they encounter discrepancies with other printed texts that use standard and conventional orthography.

The following journal entries not only confirm Ferreiro's theoretical claims about Spanish-speaking children's evolution of knowledge about written language but also confirm claims for English-speaking children. The children's acquisition, evolution, and use of knowledge about written language is a very unique cultural invention by the children. These samples are representative of the entire first grade bilingual whole language classroom.

We will include samples that depict each period according to the aforementioned characteristics by presenting case studies of four different children. Although there are many more salient characteristics, it is the macro distinctions for each period that will be highlighted. During the first period, the children have made the distinction between drawing and writing; "the strings of letters" demonstrate the linearity and arbitrariness of writing.

Juan remains in the first period for the first five months of school as demonstrated by his journal samples in September-January. In February he is in the third period, apparently having passed the second period. He remains in the third period until the end of first grade. His refinement of the alphabetic writing system in Spanish is quite evident. In February he is showing the use of the syllabic/alphabetic writing system. By the beginning of March he is almost totally alphabetic. Starting in February we also begin to see Juan's use of conventional orthography (i.e., specifically spelling and punctuation). He writes: "estavam luhano mis hrmanos." [My brothers were playing.] In March, he writes: "Yo fi Para la dul. le Preunte alcoch si Potia agarrar la Pelota." [I went to Dool School. I asked the coach if I could get the ball.] He's still using invented spellings, but he is definitely using the alphabetic writing system.

In April and in May his control of the standard orthography is very apparent because he only invents the English version of "home run" and the Spanish version of "senti." In April he writes: "Yoestaba Jugando beisbol con Luis. Le Pege un hom Ran." [I was playing baseball with Luis. I hit a home run.] His segmentation (standard spacing between words) is not yet conventional, but what is most important to note is that this child figured out the alphabetic writing system by the sixth month of first grade. Remember he had initially been using a "string of letters" to represent his meaning, and in just six months his conceptual interpretation evolved from a presyllabic writing system to a syllabic/alphabetic one (see representations).

Carolina is also a Spanish-speaking child and has a profile similar to that of Juan, although she only stays in the first period for the first two months, September and October. Note that from September to October her repertoire of letters significantly increases. By November, she is using a syllabic/alphabetic representation: "el pavo seFe a la Csa" [the turkey went to the house]. Her December sample is more alphabetic than syllabic, but she is still employing both. "la nina se sento en la Çareta. Io soi sanina. [The little girl sat on the road and I am that little girl.] "Careta" is syllabic/alphabetic for "carretera." And, "Io" represents "Y yo" and "sanina" represents "esa nina." She is completely alphabetic by January and throughout the rest of the year. Her only challenge is to learn the standard orthography, but she has certainly accomplished a formidable task — becoming alphabetic. She only differs with Juan in that he used the presyllabic writing system for five months while she used it for two months. Aside from this difference, they both arrived at the same goal (see representations).

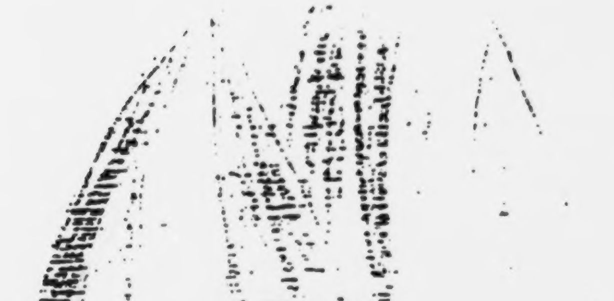
Alfonso is a dominant English speaker and his first journal sample indicates that he is in the third period. His first entry was: "IHSME." [I went swimming.] He is definitely using the syllabic writing system because "I" stands for "I", "H" stands for "went" and "SME" stands for "swimming." In his October sample we see the beginning of the alphabetic system in "mue" [movie]. He writes: "ISED MUE D FT D TE." [I saw the movie the Friday the Thirteen.] By the end of November, he is still in the third period using the alphabetic principle; "Last nit I so Banana Man. The aPl had A bOM." [Last night I saw Banana Man. The apple had a bomb.] April's and May's samples show that he definitely became alphabetic and also learned standard orthography (see representations).

Jose is an English-speaking child. His first journal entry demonstrates that he is in the first period (i.e., he is using "strings of letters" to represent his meaning). At the end of September, Jose is in the third period; "PDUITI" means [Did you see Nickolodeon]. He is using the syllabic writing system. In October he writes "JASE" [JAWS]. In November and December he uses the syllabic/alphabetic writing system. From January until the end of school, he uses the alphabetic writing system. Jose differs from Alfonso only in that he does not use the alphabetic writing system until January. However, in the end he has reached the same goal as Alfonso and his Spanish-speaking counterparts. In January he writes, "The grl IS Sad BcZ She IS A CLWN" [The girl is sad because she is a clown]. He is using invented spellings which indicate he now has the formidable task of learning standard spelling (see representations).

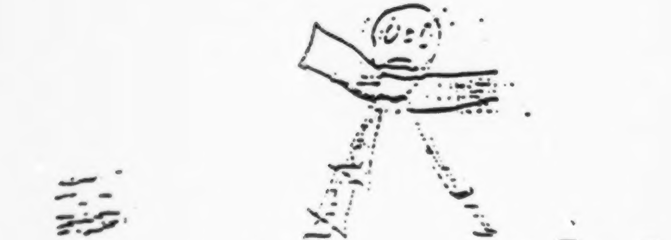
All of these profiles serve to illustrate the variety among the children's evolution of knowledge regarding written language in both Spanish and English. Even though they all have different degrees of use and stability in their evolutionary processes and social construction of knowledge, they all reached the same goal — becoming alphabetic by the end of first grade. These children were selected to show the variety within the stable "periods" of psychogenesis.

Interpretative Analysis

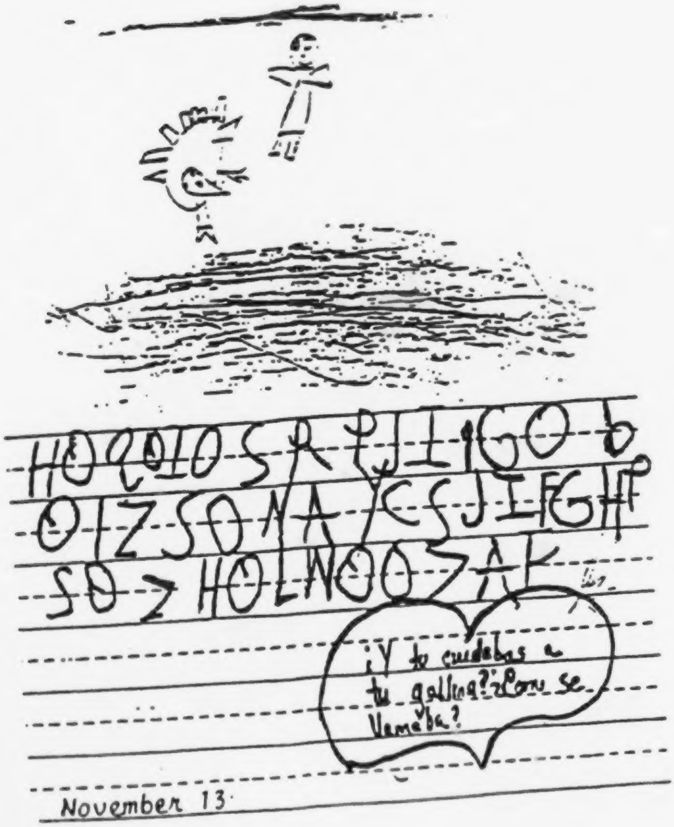
The following scattergram (Figure 10) depicts thirty first grade bilingual children coming to know written language across the entire school year, 1985-1986. Monthly samples from one literacy encounter (interactive dialogue journals) were selected randomly if the child did not show any major movement between writing systems; however, if during the month a child showed marked movement, then that particular piece was deliberately selected.


¿Es un barco de juguete o de adeveras?
September 19

Juan - September 19


OOKILT
¡Qué tierno se mira tu oso!
October 15

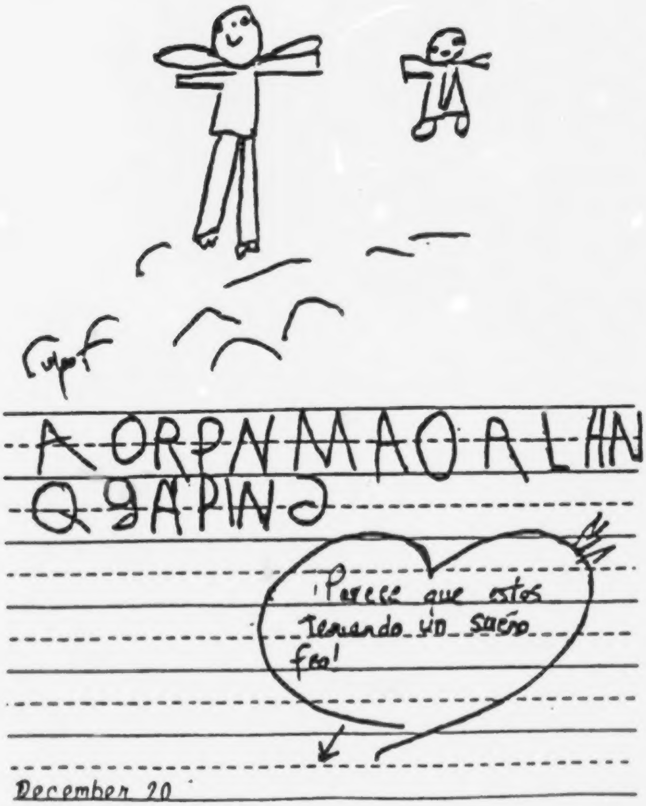
Juan - October 15


HOQOTOSRPJTIGOb
OIZSONA/CCJIFGH
SOZHOLNOOZAF

¿Y tu cuidabas a
tu gallina? ¿Como se
llamaba?

November 13

Juan - November 13



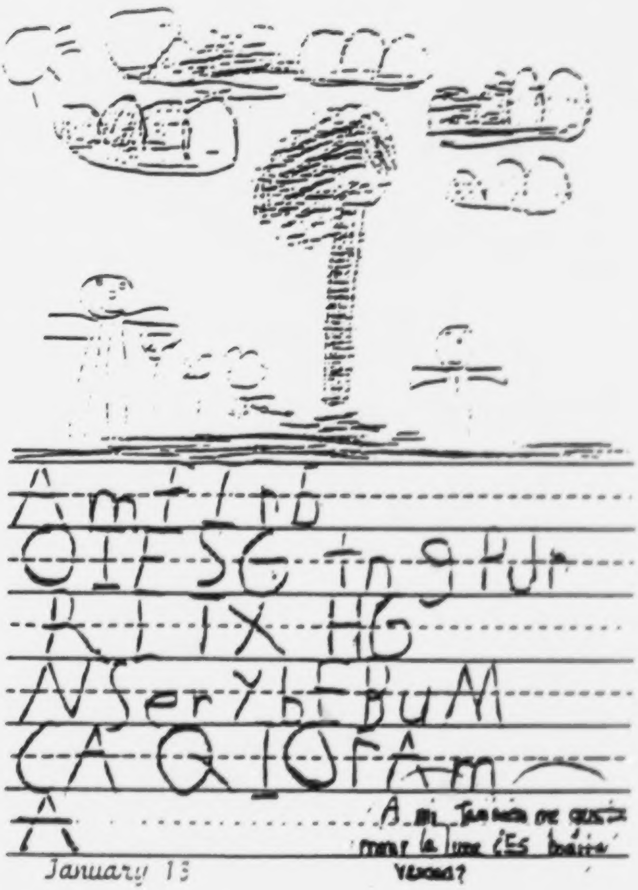
Cupf

A ORPNMAO ALHN
Q9APIN∂

¡Parece que estas Teniendo un sueño feo!

December 20

Juan - December 20


Amt Lpb
OIFSG tn g Hur
RI IX HG
NSerYhEBuM
CA Q IOfAm
A
A mi también me gusta mirar la luna ¿Es bonita verdad?
January 13

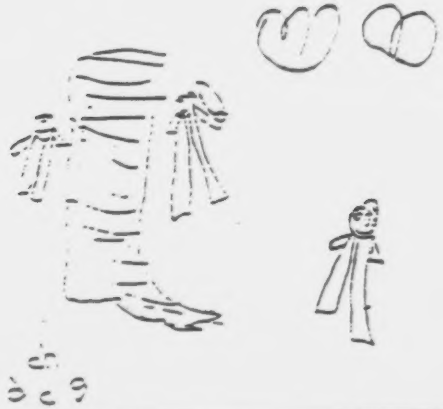
Juan - January 13

estavan lullano
mis hrmanos.

¿Estaban jugando y peleando de guerreras?
¡Ojala que no mas estaban jugando!

February 19

Juan - February 19



Yo fi Para la dul.

le Preunte al Coch

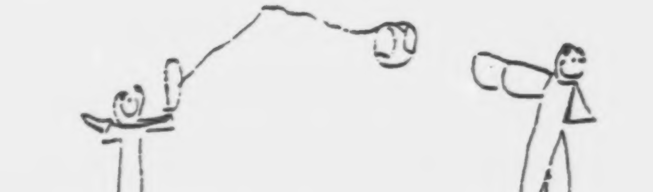
si Potia a garrar

la PeloTa

¿Y te la presto?
¿A que jugaste con la pelota?

March 5

Juan - March 5

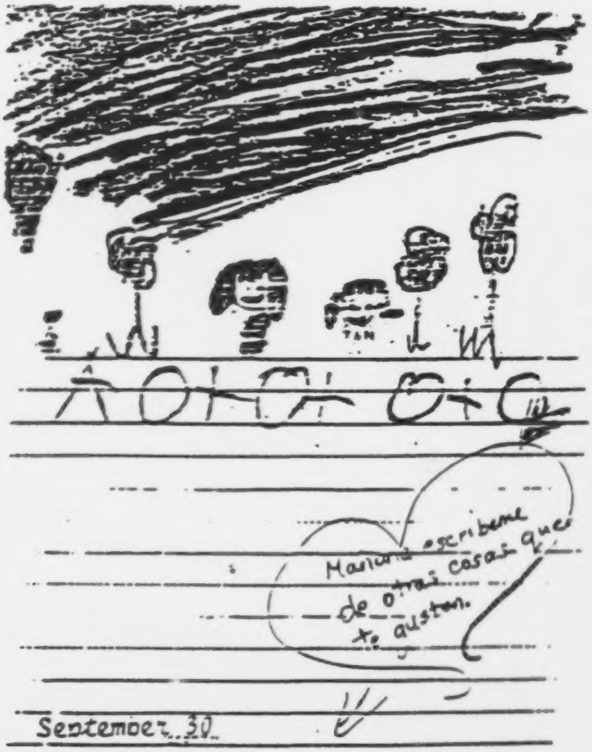


Yoestaba jugando
beisbol con Luis.
Le Pege un
hom Ran.

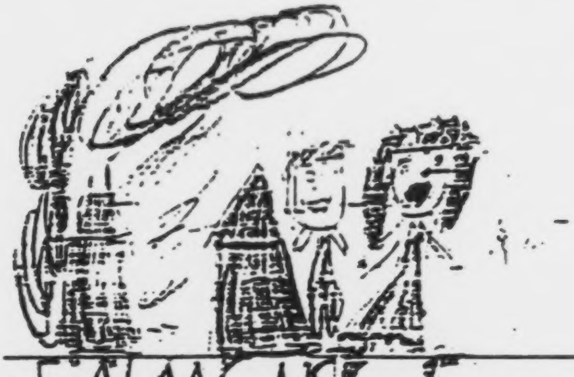
Tu juegas beisbol
muy bien! Sabes pegar
"homeruns." ¿Quién ganó?

April 14

Juan - April 14


TAN
Mariana escribeme de otras cosas que te gustan.
September 30

Carolina - September 30

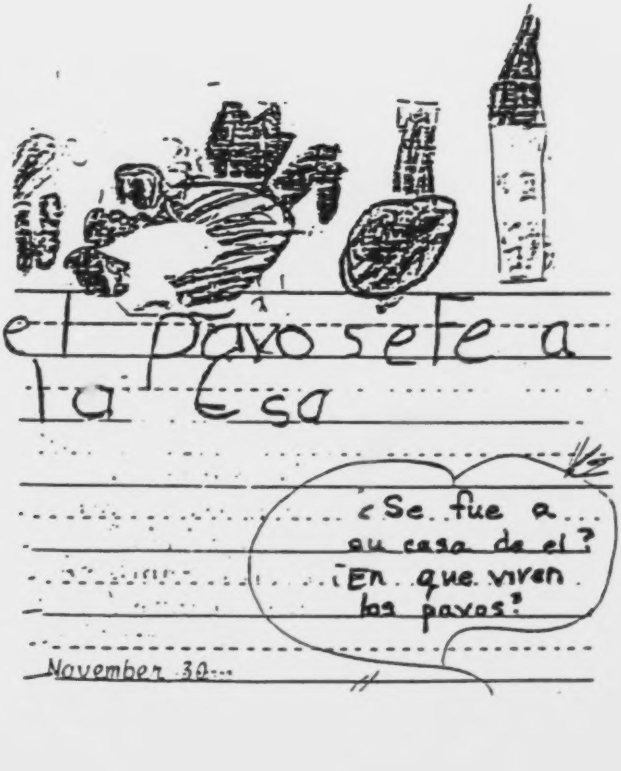


FNMSNS

BLSBSKSTQ

October 30

Carolina - October 30

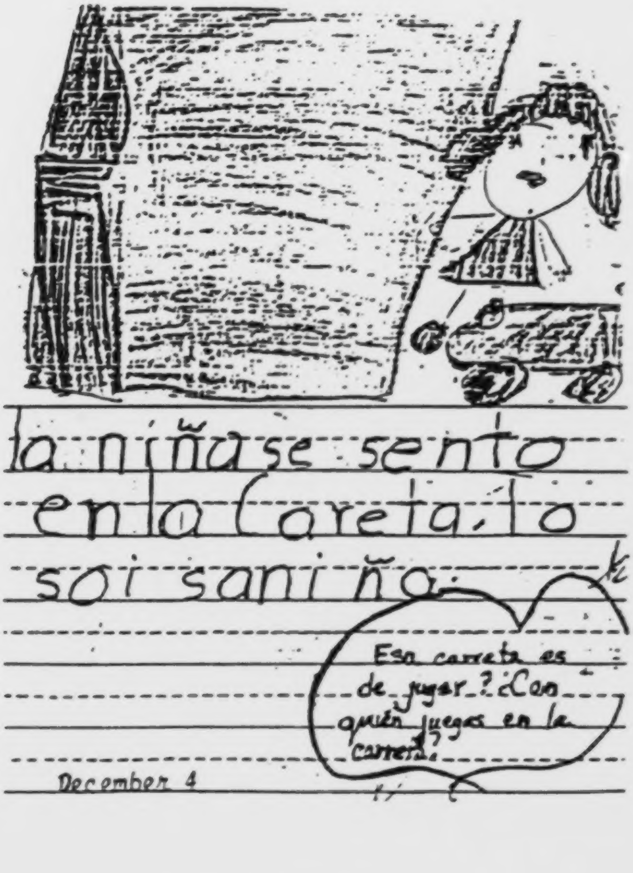


el pavo sefe a la Esa

¿Se fue a su casa de el? ¡En que viven los pavos?

November 30

Carolina - November 30

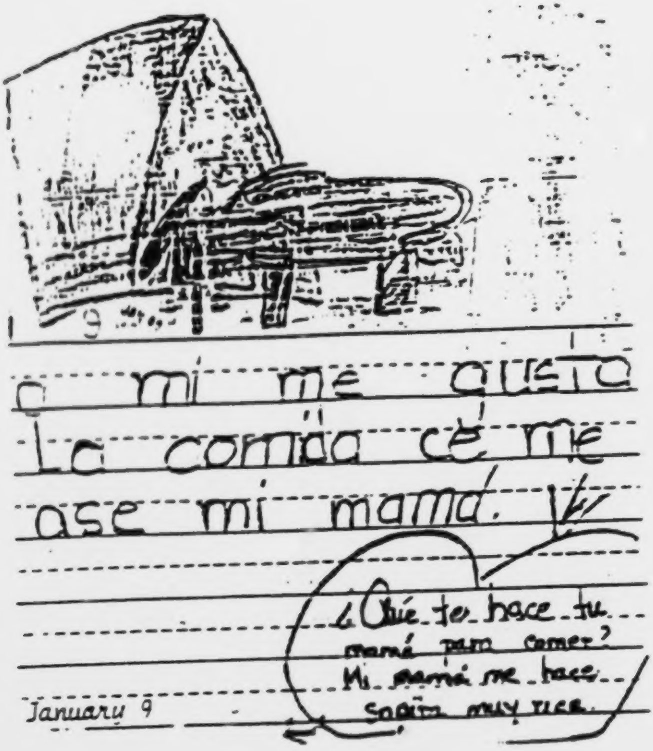


la niñase sento
enla Careta. lo
soi sani ña.

Esa carreta es
de jugar? ¿Con
quién juegas en la
carreta?

December 4

Carolina - December 4

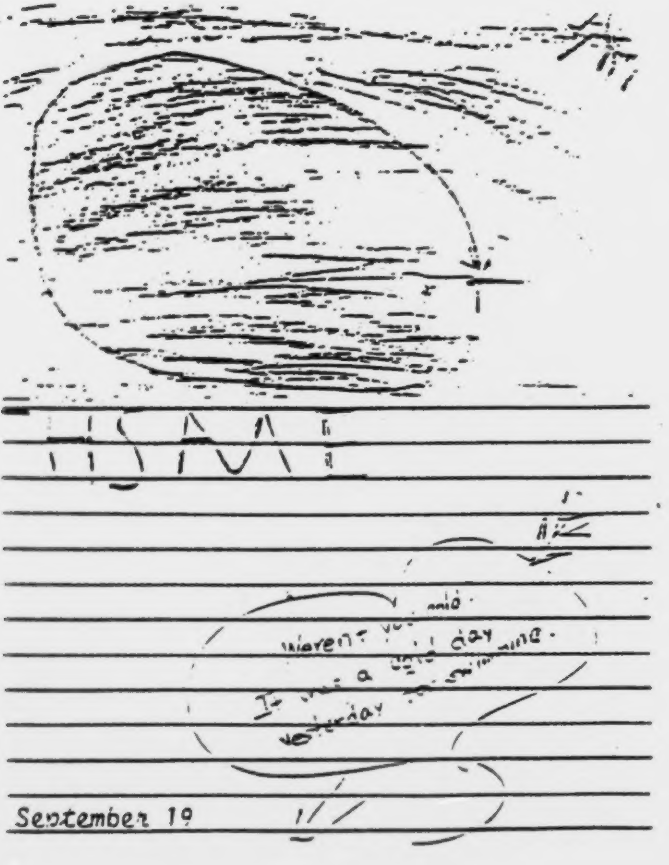


a mi me gusta
La comida cé me
ase mi mamá.

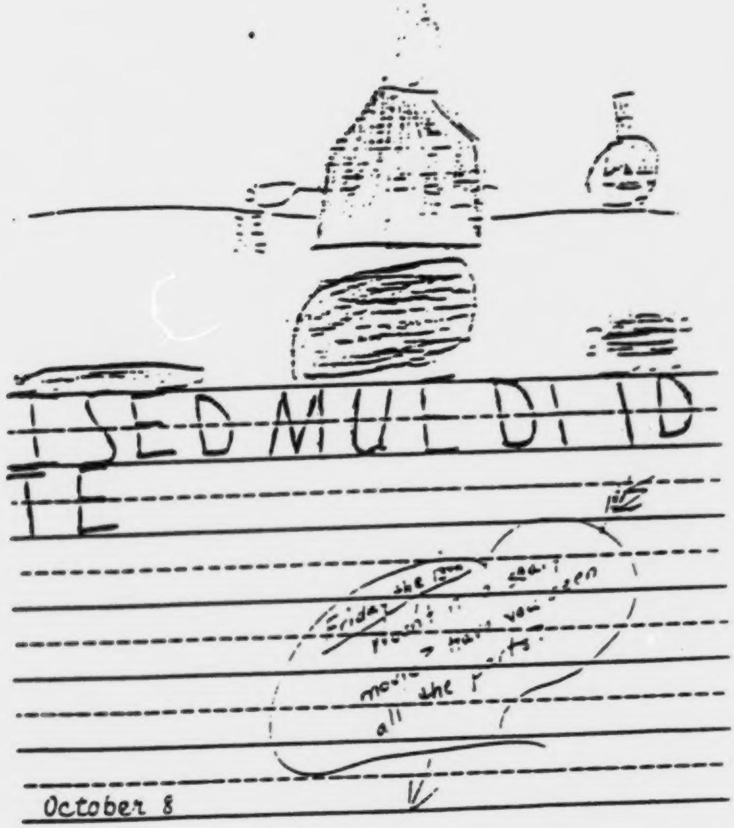
¿Qué te hace tu
mamá para comer?
Mi mamá me hace
sopita muy rica.

January 9

Carolina - January 9


weren't you
It was a day
yesterday
September 19

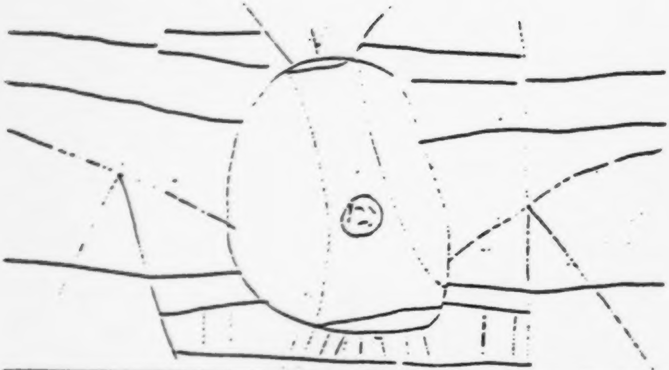
Alfonso - September 19



I SED MUL DI ID
TE

October 8

Alfonso - October 8

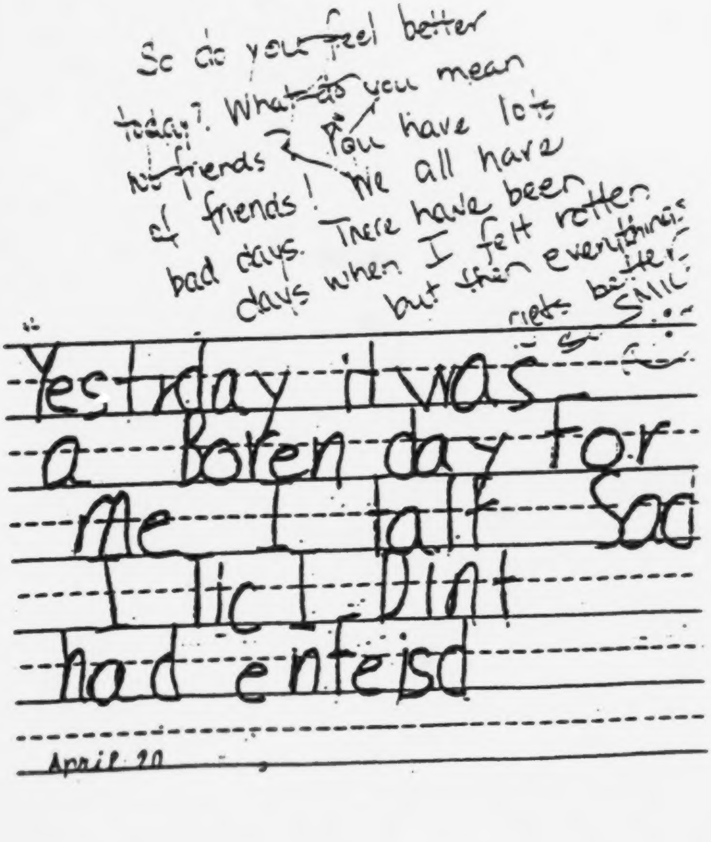


Last nit I so
Banana Man. The
aPl had A BOM.

Was the Apple
the name of a
bad guy? I bet
the Banana Man
was a good guy.
Right?

November 22

Alfonso - November 22



So do you feel better
today?. What do you mean
no friends? You have lots
of friends! We all have
bad days. There have been
days when I felt rotten
but then everything
gets better.
Smile

Yestrday it was
a boren day for
me I falt Sad
I lic I Dint
had enfeisd

April 20

Alfonso - April 20

Alfonso - May 2

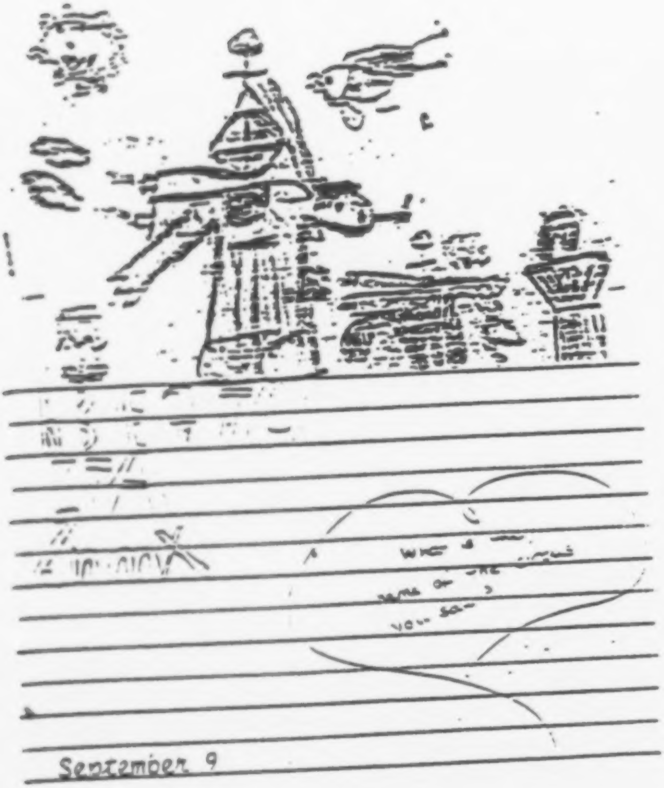
306

5-2-86

Yesterday we Played
Te Ball. Fegeroa
Scord. SiXTh. runs
Then we Scrd nine runs
We won!

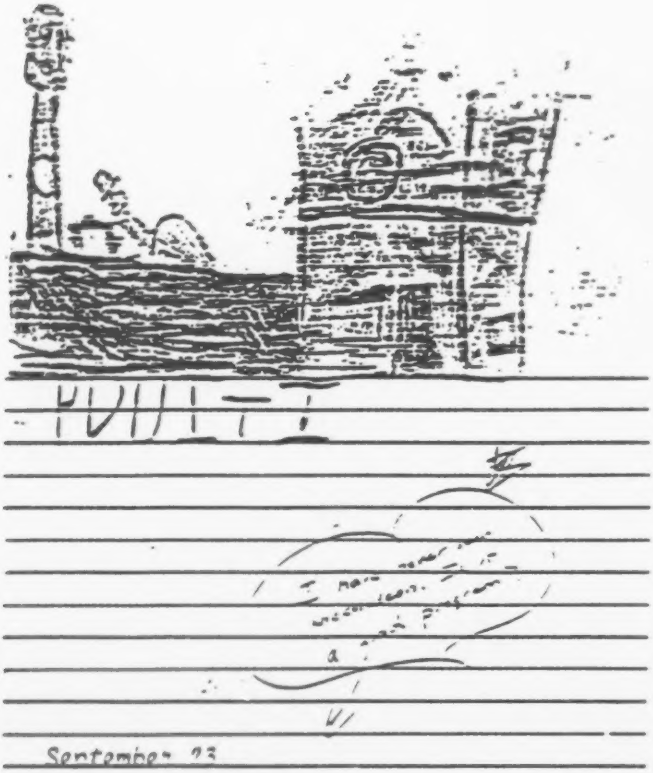
That's great! You play
again tonight? Right? I
hope you win. Will you
be champions if you win tonight

BEST COPY AVAILABLE



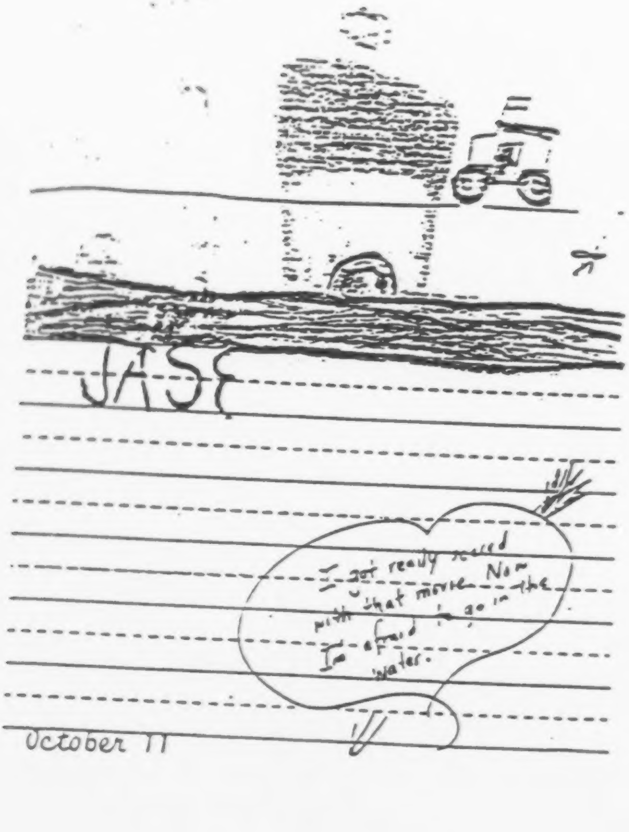
September 9

Jose - September 9


September 23

Jose - September 23

830

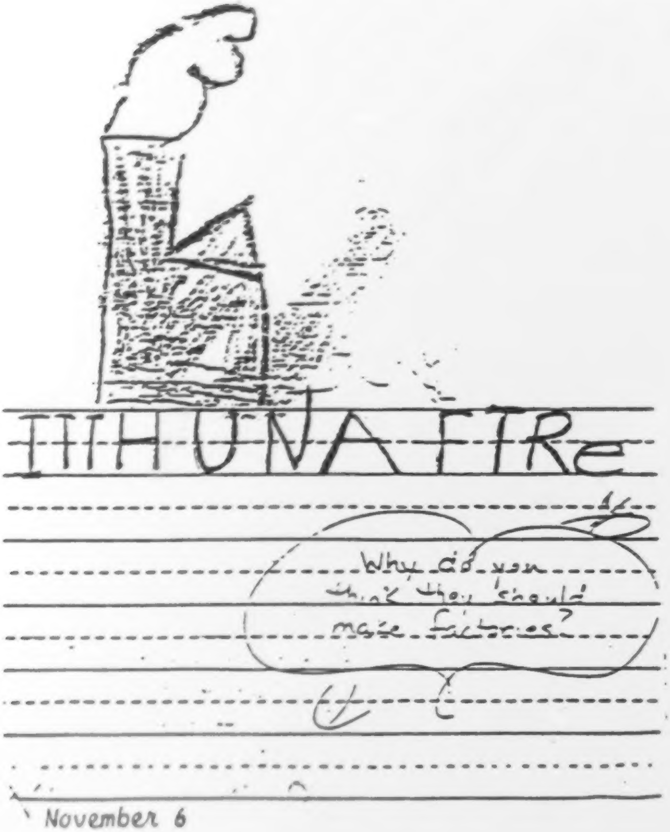


JASE

I got really scared with that movie Now I'm afraid to go in the water.

October 11

Jose - October 11

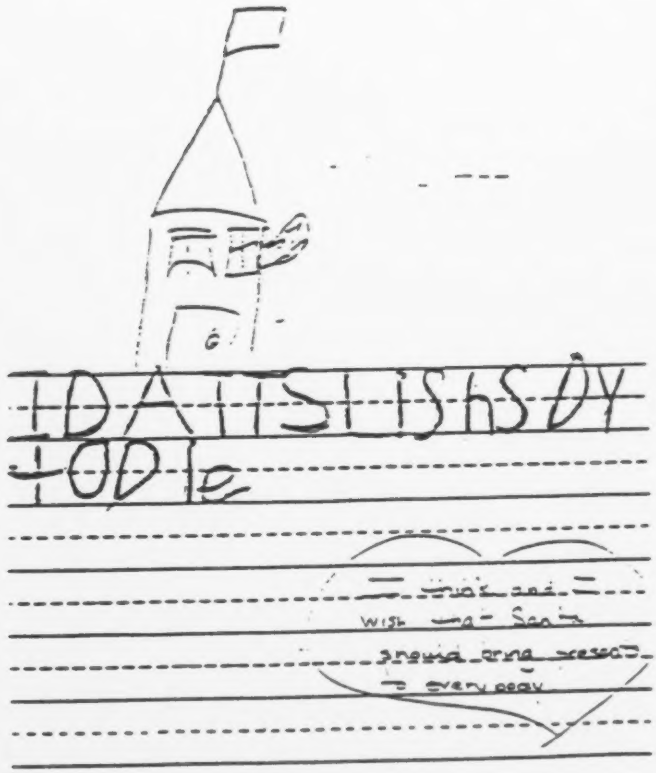


IIIHUNAFIRe

Why do you think they should make factories?

November 6

Jose - November 7

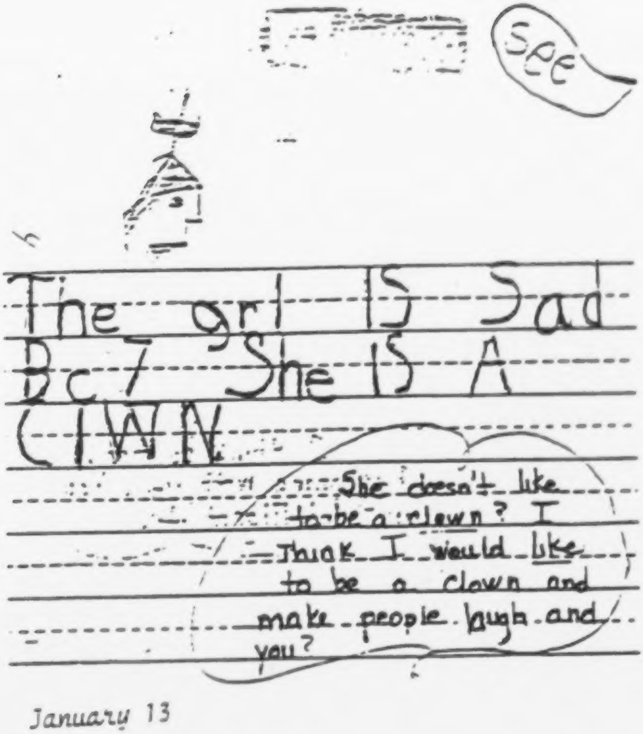


IDATTSLISHSDY
TODle

I think and I
wish that Santa
should bring presents
to everybody

December 5

Jose - December 5



The grl IS Sad
Bc7 She IS A
CLWN

She doesn't like
to be a clown? I
Think I would like
to be a clown and
make people laugh and
you?

January 13

Jose - January 13

Coming to Know the Aphabetic Writing System in Spanish and English: Thirty Bilingual Children's Evaluation of Knowledge During 1985-986

Spanish Dominant ■
English Dominant *

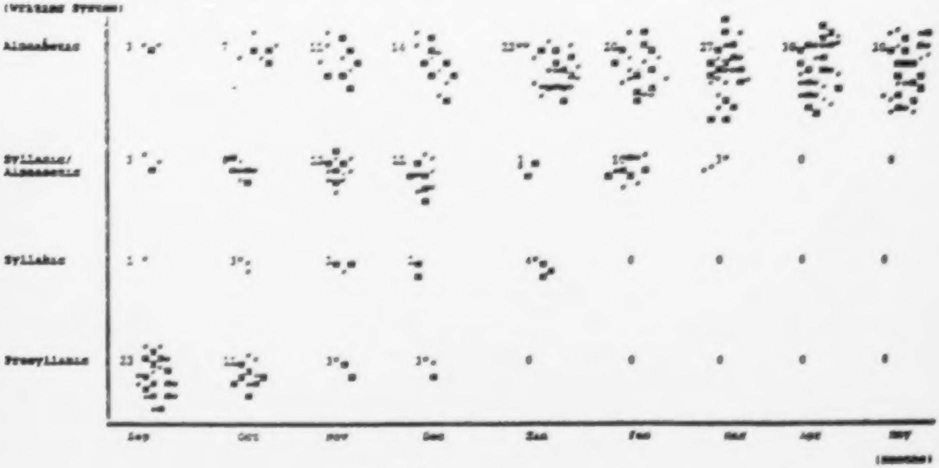


Figure 10

B. Flores/E. Jacobson - Arizona State University:041987

This was neither an experimental study nor an ethnographic study. This particular "study" is based on teachers' needs to know about how children progressed on a monthly basis in the evolution of their knowledge about written language in just one literacy encounter within school. If it were called any kind of a study, it would more appropriately be called an "action research" learning and teaching experience (Stenhouse, 1974).

The squares depict the children that are Spanish dominant whereas the asterisks depict the English dominant counterparts. The fact that not many children used the syllabic writing system should be reconsidered because we were not present at all times when the children were producing the written text. Some of the children that appeared to be using "strings of letters" may have been engaged in syllabically representing meaning (refer to Figure 10)

At a glance, the reader can see that the thirty children made significant progress from September to May. At the beginning of September, twenty-three children were using the presyllabic writing system. Of the twenty-three, nine were English-speaking children and the other fourteen, Spanish speaking. Three children (two English speaking and one Spanish speaking) were using the alphabetic writing system. Only one English speaking child was using the syllabic writing system whereas the other remaining three children (two English-speaking and one Spanish-speaking) were using the syllabic/alphabetic writing systems.

In October, the children's progress was remarkable. Twelve children who had previously been using the presyllabic writing system in September began using different writing systems as evidenced by the increase in the other possible writing systems. For example, seven children, four English speaking (ES) and three Spanish speaking (SS), were using the syllabic/alphabetic writing system as compared to only three the previous month. And three English-speaking children rather than one in September were now using the syllabic writing system.

This variation in a matter of one month's time is extraordinary given that the teacher had only one month of experience in the praxis of this new pedagogy. However, this does not mean that the teacher had a cause-and-effect relationship with the children's progress but indicated that: (a) she socially organized the opportunities for children to construct knowledge about written language; (b) she deliberately set up zones of proximal development every time she authentically responded to the children's representation of meaning through their writing; and (c) she readily accepted all the children's conceptual interpretations of written language, thus creating a respect for each learner's knowledge and the opportunity for each learner/child to actively engage in the recreation of literacy knowledge in a mutually created social context within school. This mutually created social context eventually became a natural avenue for communication.

In November, we again observed a dramatic shift. Only three children (one ES and two SS) were using the presyllabic writing system. In just two months the children's growing knowledge of written language had shifted toward becoming more alphabetic as evidenced by the eleven children (five SS and six ES) in the alphabetic category and thirteen children (four SS and nine ES) in the syllabic/alphabetic one. This dramatic shift indicated that children, given the opportunity to use and experiment with their working hypotheses, demonstrated their knowledge on a daily basis in a communicative social context, such as interactive dialogue journals. Since the beginning, the children had known that it was okay for them to write their own way. The most difficult children were those who had a "perfectionist" syndrome. By age five, they had assumed that in order to write anything they had to "spell" it exactly and correctly. Those types of children were the reluctant risk takers.

In December, fourteen children (six SS and eight ES) used the alphabetic writing system. This means that the children were writing more sound/letter correspondences guided by the alphabetic principle. It also means that the children integrated all the parts (the pragmatic, semantic, syntactic, and the graphophonemic cuing systems) within the whole so that they functioned and transacted at the adult cultural expectation. Although they were beginning to use standard orthography, for the most part they did not. Ferreiro and Teberosky (l982) claim that is the next difficult task for the children, but just figuring out the alphabetic writing system is short of a miracle. The other children were dispersed among the other writing systems. Eleven (five SS and six ES) were using the syllabic/alphabetic writing system whereas two Spanish speakers were using the syllabic writing system. The remaining three (two ES and one SS) were still using the presyllabic conceptual interpretation. In the fourth month of first grade this was a remarkable accomplishment for the children.

It is remarkable inasmuch as these children came from low to low-middle income families. Although their primary language was basically Spanish, some were bilingual in Spanish and English by first grade. It was also remarkable because their parents neither sat and wrote with them nor read storybooks to them on a regular basis. It is also noteworthy that traditionally first grade bilingual children are usually not given the opportunity to engage in their own construction of knowledge with writing and reading. Instead they are given handwriting exercises, words or sentences to copy from the board. Copying does not actively engage the children in learning how the alphabetic writing system works. This remarkable show of knowledge about the alphabetic writing system demonstrates that our children know more than we have previously assumed.

By January, twenty-three of the thirty first graders (ten SS and thirteen ES) were using the alphabetic writing system. As the scattergram indicates, the other seven fell into the syllabic (three SS and one ES) and syllabic/alphabetic (two SS and one ES) categories. The children didn't necessarily evolve from one writing system to another but indeed retreated to more comfortable and workable hypotheses or either "skipped" or used the other alternate writing systems available. During this month, both the teacher and the parents gained confidence in the children's learning capacities and renewed their respect for the children's construction of knowledge about this phenomenon we call literacy (reading and writing).

By February, in spite of the fact that three children fluctuated from the alphabetic to the syllabic/alphabetic writing system, four children who were using the syllabic writing system began using the syllabic/alphabetic (five SS and five ES). Ferreiro and Gomez Palacio (1982) noted that the children in their study also fluctuated between the alternative writing systems. By February, twenty children used the alphabetic writing system and ten used the syllabic/alphabetic writing system. This is indeed remarkable when compared to how we "taught" reading and writing using the status quo literacy and biliteracy curriculum.

In March, ninety percent of the children (twenty-seven out of thirty) were using the alphabetic writing system. All the Spanish speaking children (fifteen) and twelve of the English-speaking children were using the alphabetic writing system. Only three English-speaking children remain using the syllabic/alphabetic system. This is indeed quite an accomplishment for five and six-year-olds who basically came from low to low-middle socioeconomic levels and had been traditionally labeled "at risk" or "LEP."

In the months of April and May, all thirty bilingual children were using the alphabetic writing system. At this point, their conventional spelling also far exceeded their invented spelling. As previously stated, they were then faced with the task of learning how to spell conventionally since the alphabetic principle works only some of the time. It should also be noted that many of the children applied their alphabetic knowledge from their first language to the second language without having to "go through any teaching of skills."

Pedagogical Implications

There are several pedagogical implications that will significantly impact the way we teach and organize literacy learning for our bilingual children. The most salient deals with the teacher's knowledge about how children come to know written language by the praxis of the knowledge bases from the four paradigms of sociopsycholinguistics, sociocultural, psychogenetic, and sociopolitical philosophy of learning and teaching. Second, these knowledge bases give the teacher the necessary understanding to restructure the social organization of the learning and teaching of literacy through mutually constructed social contexts (such as interactive dialogue journals). Third, this new knowledge challenges the status quo literacy and biliteracy curriculum and forces teachers to reevaluate their perceptions, beliefs, attitudes, assumptions, and practices about the traditional way of teaching literacy (reading and writing in L_1) and biliteracy (reading and writing in L_2). Fourth, by demonstrating how written language is used in the social context of authentic dialogue (Freire, 1970), we show that the children's acquisition of literacy knowledge will be facilitated and not impeded. Fifth, in the praxis of authentic dialogue, the children recreate knowledge about written language so that they are learning to read and write (that is, integrating and refining all the cuing systems — pragmatic, semantic, syntactic, and graphophonemic) in not only one language but two. Sixth, by deliberately setting up the context for authentic oral and written dialogue through interactive journals, the teacher is deliberately mediating knowledge through zones of proximal development. Seventh, these findings seriously raise questions about our status quo literacy and biliteracy curriculum. We must begin to shift our paradigms from an isolated skills approach to teaching reading and writing to a more holistic and authentic use of written language in our schools.

Last, by abandoning our traditional beliefs, practices and low expectations of bilingual first graders and replacing them with these new beliefs, understandings, knowledge, practices and expectations, we will restructure schooling so that all of our language minority (soon to be majority) children can successfully perform academically in literacy and biliteracy. By democratizing the learning and teaching of reading and writing, we have shifted the sociopolitical status of the children. In the status quo curriculum, literacy ability was the yardstick used to assign ability groups. But in this democratic milieu, all children are the haves. We no longer adhere to the "haves" and the "have nots." Most importantly, we no longer unknowingly participate in the structured subordination and humiliation of our bilingual children's academic achievement. Knowledge is power. What we must do is allow our children to demonstrate what they already know when they come to school. While our children are attending school, we must relearn how to facilitate their acquisition of knowledge — Querer es Poder.

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ISSUES IN FOREIGN LANGUAGE AND SECOND LANGUAGE EDUCATION

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INTRODUCTION

When asked to write a substantial paper around this title, I was at first perplexed because I had blurred any distinctions between a "foreign" and a "second" language and used the terms interchangeably.

In research on bilingualism, the major issue for me has been which language is acquired first and which second. Relative to the "native language" or the "mother tongue," any language, whether it is a "foreign" or a "second," comes second, except for the fascinating cases in which two languages are acquired simultaneously in infancy. Working in Canada also contributes to a simplification of the distinction between the terms. In Canada there are two official national languages, and either French or English can be a first language for large numbers of Canadians. Learning the other national language would make either one of them the "second" language, even though in certain parts of the country either one could be as "foreign" a language as Spanish or Greek would be. The distinction begins to emerge when one thinks of the United States, where English is the only national language and where, in oversimplified terms, if English isn't a person's home language then he/she is expected to make it his/her "second" language, whereas if English is the home language, any other language one might learn is "foreign."

My purpose here is to bring out various distinctions between these two terms and to relate the differences to the ways foreign languages (FLs) and second languages (SLs) are supplied, by school authorities and teachers, to young people in schools and colleges who become the potential users of the offerings provided. The focus throughout will be on school based, formal teaching and learning of languages, not on informal, outside school sources of acquisition. Because there is usually more urgency involved in supplying SL than FL services, since SL users are under various forms of pressure to develop skills in English as quickly as possible, special attention will be directed to the SL case, although, it will be argued, one must give full consideration to the FL case because of the mutual benefits that can be generated when the concerns of SL and FL users are brought together in innovative educational programs. It will also be argued that there is a clear need for SL and FL program developers and teachers to learn and benefit from one another.

Comparisons of SL and FL Education

The common theme in SL and FL pedagogy is the fact that both forms focus on the teaching and learning of another language different from one's home language or mother tongue. As Ferguson (1990) puts it, the ultimate concern of both SL and FL suppliers is to enhance "the acquisition of non-mother tongues." The contrasts to be drawn in this paper will suggest that, other than this very general common feature, SL and FL education are fundamentally different. But before elaborating on these perceived differences, it is appropriate to signal and provide bibliographical references to the fact that there is no consensus in the field of language pedagogy on what the essential differences are, or even whether any differences are essential. An excellent overview is provided by Freed (1990) who basically argues that the similarities between FL and SL learning/acquisition outweigh the differences. Similarly, Gass (in press) and Kramsch (in press) are of the opinion that the learning of non-primary languages is a common field of enquiry that encompasses both SL and FL approaches. Others see the SL form as more inclusive. Thus, Ellis (1986) makes FL learning one form of SL learning, as does Littlewood (1984).

Others expand on the idea of a partial overlap of SL and FL learning approaches (e.g., Van Patten, 1988; Van Patten and Lee, in press), making SL learning/acquisition the common paradigm for classroom-based second language learning, classroom-based foreign language learning and outside school (untutored or natural) second language learning. Freed (1990) steps back from this argument and wonders whether the differences that are commonly stressed may, in practice, be essentially artificial. Likewise, Ferguson and Huebner (1989) conclude that the apparent differences may be matters of degree rather than of kind.

It is clear, then that there are various well-thought-through perspectives on SL and FL education and there is certainly room for yet another. The perspective developed in this paper, which places much greater emphasis on what I see as fundamental differences between SL and FL education, is an optique that takes preeminence if one considers the SL-FL debate from the vantage point of psycho- and sociolinguistics. For me, the SL and FL forms of education differ in their purposes, in the ways the practitioners of each form are trained and selected, in the backgrounds of the users of each form, in the concerns and preoccupations of those involved as teachers of each form, and in the impacts FL and SL suppliers have on special subgroups of users. These differences, it will be argued, have not only practical consequences but theoretical ones as well.

Permit me to characterize these contrasts through oversimplifications of my own creation that are overdrawn to make the basic differences stand out. For me, the essential differences are social in nature, not linguistic.

Contrasts in the Backgrounds of SL and FL Practitioners

In the United States, SL education has been developed over the years mainly for those who have a first language other than English at some level of proficiency and who must be brought up as quickly as possible to American norms in English, making it their second language. FL education has been developed for those who have English as their native language (their first language) and who are enticed in one manner or another to learn another language that is "foreign" in the context of the basically Anglo-Saxon, world that America was thought to be. Because the orientations of SL and FL forms of education differ, two quite different cadres of suppliers have evolved, and consequently the background training and ultimate selection of the practitioners of SL and FL education are typically different. SL practitioners are specialists in and technicians of language teaching/learning, usually with training in applied linguistics and/or TESL. They often become education authorities in state or federal agencies who make SL education an important part of their profession. FL practitioners, in contrast, are usually humanists, lovers of foreign treasure sites like Florence, Rome, Paris, Vienna, or pre-Mao China; usually they are primarily interested in literature, in story telling and story reading, and the stories they highlight are viewed as classics, the important exports from the old world to the new.

Contrasts in Purposes

These two groups of practitioners have quite different preoccupations. Those involved with the SL option are busy technically evaluating, linguistically analyzing and psycholinguistically experimenting so as to make palpable changes and improvements in SL delivery. In reaction to this flurry of SL activities, those involved with the FL option react cautiously, often by distancing themselves and by overemphasizing the humanistic, literary, and pure nature of a foreign language.

The purposes or aims of SL and FL education reflect these differences. Basically, the aim of SL pedagogy is to bring language minority families into the American mold, to teach them our national language, to help them wash out as quickly as possible old country ways and old country languages and substitute a new way of life for the old, and to help orient newcomers to the "here" and away from the "there." Stated otherwise, the plan is to help resocialize by replacing or substituting a former way of life with a new alternative. Replacement means subtracting out an older, potentially dysfunctional cultural background in order to become comfortable with the required new culture. If parents can't swing this resocialization themselves, then their responsibility should be to provide support so that their children can make the transformation.

The aim of the FL advocate, in contrast, is to civilize and refine the American character by introducing American young people to the older centers of civilization and to the writers who concretize through their languages the greatness of these civilizations, ancient or contemporary. The aim is also to prepare American young people to be sojourners, tourists, or visitors themselves so as to be enriched through hands-on experiences. Moreover, FL training should prepare students to be the links or communicators with the young living in foreign places, making them the potential mediators between cultures, the collaborators in international affairs. In other words, the FL approach aims to add refinement and international class to the down-to-earth, eminently practical American character.

Contrasts in the Impact on the Recipients of SL versus FL Education

The messages received by SL users are slowly but surely decoded. Language minorities are told indirectly to accommodate and assimilate to the host culture, linguistically first and, in the process, culturally as well. Mastering English is presented as a necessity in order to survive, compete, and possibly even succeed in the new land. The young ones are asked to reprogram themselves in terms of basic language-thought relationships, replacing earlier formed word-thought connections with new ones. They are also asked to become American as quickly as possible by distancing themselves from old country ways of thinking and behaving.

Newcomers are led to believe that accommodation will be easier if they demonstrate, through cultural and linguistic gestures, that they want to become fully American. In this way, they can win new friends among Americans. Once accommodated, they can appreciate the new way of life offered, and this will eventually compensate for nostalgic thinking about the loss of an old way of life.

The messages sent to FL users are less subtle and more easily decoded. They are led to believe that they can enhance their personal worth and power through knowledge and experience of a foreign culture and language, that the comparative linguistic strength they might develop could amplify their knowledge of and skill with their mother tongue, that their personal enrichment through the classics would certainly double their cocktail party charm, and that they could capitalize on an informed internationalism fostered through FL experiences because the corporate/business world needs such people, the media fields would appreciate such training, and the executive world would more likely let one in because of it.

Real World Realities of SL and FL Education

How relevant to today's world are these simple characterizations of these two contrasting forms of education? The SL suppliers are still prominent and active and have been, in my experience, since World War II. Shortly after the war, the Eisenhower administration instituted the National Defense Education Act, which challenged language specialists to improve foreign language teaching because America was found to be tongue-tied on foreign languages, relative to other nations. The challenge fell first to FL specialists, but the responsibility slipped from them to SL experts and to applied linguists who wanted quantifiable signs of improvement, not in the classics but in communicative skills in modern FLs. Applied linguists and educational psychologists became the specialists of modern FL teaching/learning; they were the ones who would evaluate the output of one teaching approach versus another. These specialists, later joined by TESL experts, were available, experienced, and ready to help with SL problems, especially with the problems of language minority children who became increasingly numerous in public school systems across the nation.

In today's world, the SL specialists are still young and enthusiastic and even more broadly trained in the technical aspects of language teaching/learning. Although the training of new SL specialists today includes high level competence in one or more foreign languages and in the related social histories and classics of the cultures involved, it is my observation that new SL recruits are still drawn from the language-linguistics division of university language deparatments, not from the language-literature division, and their training is typically slanted toward linguistic and psycholinguistic studies, TESOL, and educational psychology. Thus, my feeling is that the technical prominence of SL practitioners in the field of language education still leaves most old-line FL specialists on the sidelines, essentially out of the main action.

There is nothing new about this division of specialties. In the 1960s and 70s we witnessed the demise of foreign lanaguage requirements at the college/university level, and then,in apparent response, at the high school level as well (see Parker, 1967). The purpose and value of foreign languages was questioned. With the world-wide adoption of English as the number one international language, need English speakers learn other languages? Many colleges accepted a course or two in computer science, for example, as a fair, more useful, alternative to FL training. It was also becoming true that Americans could now leave home and visit Florence, Paris, or wherever and find plenty of locals surprisingly skilled in English. In the process, of course, we were becoming "ugly Americans" (Lederer & Burdick, 1958) in the sense that we were presumptuous about the sufficiency of English; we would even flaunt our ignorance of foreign languages and cultures. We were simultaneously becoming pushovers on the international scene in the sense that we depended on local hired hands in foreign sites to tell us their versions of what the foreign press or letters to the editors were saying about us Americans; Iranian bilinguals could explain to a whole embassy staff of Americans in Teheran (few if any of whom were skilled in Farsi) why they were being held as hostages and what their fate might be; Japanese and European car makers could come to the United States and learn the ways of our auto industry and tell Americans only as much as they needed to be told about how their auto industries were shaping up in Japan or Germany.

Recent awakenings of interest in FL education seem to me to derive in part from America's decline in the international fields of diplomacy, industry, and technology. It is becoming evident that not only will we have to learn other people's languages and visit them at home in order to catch up, but that there is more to it than simply learning communicative skills in their languages. Perhaps the mysteries of old world values, cultures, and points of view will have to be reconsidered? Even so, American parents, basically dissatisfied with their own experiences of two to three years of high school or college FL education, may still wonder about their children's possibilities of ever catching up.

Parents' Desires and Expectations for their Children's SL and FL Education

Whether parents' expectations can be met or not, SL or FL specialists have very little information about what American parents — whether minority language or mainstream anglophones —actually think about SL and FL education for their children or how such education might be related to the more basic issue of trying to cope with language and cultural diversity in the United States, an issue as relevant today as it has ever been in our history.

Let me draw on a survey that two of us at McGill (Lambert & Taylor, 1988; 1990) are conducting in order get some idea of parents' views on just these issues. The research in question focuses on a fundamental and long-standing debate in America about how immigrants and established ethnic minority groups can and should accommodate to mainstream society and be accommodated by it. In this debate, two contrasting ideological positions are highlighted: assimilation, the belief that cultural minorities should give up their so-called "heritage" cultures and take on the "American" way of life, and multiculturalism, the view that these groups should maintain their heritage cultures as much as possible.

This debate has had a rich theoretical and empirical history in the sociology of ethnic relations (see Hirschman, 1983). The assimilation perspective (e.g., Park and Burgess, 1921; Gordon, 1964) was and, according to some, "continues to be the primary theoretical framework" (Hirschman, 1983;401). More recently, the assimilation view has been challenged by those who perceive over the past two decades a revival of ethnicity (e.g., Glazer and Moynihan, 1970; Greely, 1974; Novak, 1972). The ethnic revival perspective, while gaining momentum, has itself been challenged by others (e.g., Alba, 1981; Gans, 1979), who question the depth of the alleged resurgence of ethnic awareness.

In order to gauge contemporary thinking on these issues and especially the role that attitudes play, we chose to conduct our first study in a large American metropolitan area which, like many others in the United States, is continually accommodating to the social pressures generated by daily contacts among members of a large array of ethnic groups, some visible "minorities", and others hardly visible at all. Urban centers and inner city public schools in the United States are unmistakably diverse in cultural and racial composition. Thus, the underlying concern of our study is how communities and schools adjust to the social tensions that inevitably arise among members of such a variety of ethnic and racial groups.

We focused on parents whose children were attending public schools in this urban setting. In probing their views on assimilation and multiculturalism, we took care to present both the favorable and unfavorable arguments commonly associated with each alternative. For instance, respondents who favored assimilation as a general policy were then asked if this option would actually promote national unity and also if in the process the nation might lose the best that other cultural groups had to offer. Similarly, respondents who favored multiculturalism were asked if this would dangerously diversify the nation and increase language barriers, and also if this would permit newcomers to keep their identity, generate intergroup tolerance, and conserve each group's distinctive contributions.

Three overriding issues were addressed: attitudes about assimilation versus the maintenance of heritage culture (multiculturalism); views about the maintenance and use of heritage languages (bilingualism); attitudes toward each respondent's own group and toward other prominent ethnic groups in the community (the issue of intergroup harmony or conflict).

The participants in the study were all parents of children enrolled in public schools in either Hamtramck or Pontiac, two ethnically diverse communities adjacent to Detroit, Michigan. The participants were chosen because they belonged to one of the four major ethnic groups living in Hamtramck: Polish Americans, Arab Americans, Albanian Americans, black Americans; or one of the five major ethnic groups living in Pontiac: Mexican Americans, Puerto Rican Americans, black Americans, working class white Americans, or middle class white Americans. According to plan, all groups but one comprised respondents from lower working class backgrounds; the exception was the middle class whites who were included as an important reference group. A distinctive demographic feature of the greater Detroit area is that working class whites are, in large proportion, families from the South who have been in the motor industries for generations and who keep close ties with relatives in the southern states.

We selected from the literature certain standard measures of attitudes and values that seemed appropriate for our purposes and developed others that focused on particular combinations of feelings, attitudes, and points of view. The final interview schedule was professionally translated into Arabic, Polish, Albanian, and Spanish and tested again with small samples of each of our target groups. Because some parents might have had trouble reading questions, it was decided that the interviewers would read questions aloud and that parents would give their responses in terms of Likert-type numerical scales that accompanied each item. Thus every question required a response on a seven-point scale defined at one end (1) by such qualifiers as "not at all" or "disagree totally" and at the other (7) with "extremely" or "agree totally"; (4) represented the midpoint on each scale. Although the interviews were kept informal and interpersonal, the respondents were taken through a predetermined progression of questions designed so that systematic psychometric analyses could be carried out on their responses.

Two to four interviewers were selected from within each ethnic community on the basis of recognized respectability. Thus the majority were teachers, social workers, nurses, for example. All interviewers were fluent bilinguals in a heritage language and English, except for those interviewing English speaking mainstream Americans. They were in all cases coethnics with the respondents which meant that although they held responsible positions, their family backgrounds were typical of the working class family backgrounds of the respondents.

Polish, Arab, and Albanian Americans

One of the main questions all respondents were asked was: Should cultural and racial groups — immigrant minorities or long-term minorities — give up their traditional ways of life in order to assimilate to American society, or should they maintain their heritage cultures as much as possible? Once respondents' positions on this debate were indicated, a series of follow-up questions probed the implications of the general stance taken.

Despite a host of minor and sometimes major differences in attitude and outlook, there is a surprising degree of consensus and agreement within and among all the key ethnic groups in Hamtramck concerning certain fundamental issues. Polish, Arab, and Albanian Americans in our sample were all strongly committed to the idea of multiculturalism, and they all rejected assimilation as a viable strategy for newcomers to America. The Polish parents, while not as extreme as the Arab and Albanian parents, nevertheless showed a clear endorsement of multiculturalism, which is especially strong considering that many of this group are third generation in the United States. The extent of the position taken by these and all other ethnic groups surveyed is depicted graphically in Figure 1.

Parents from all three groups also believed that being bilingual in both the heritage language and English would be a great advantage for their children. The advantages they saw were not limited to feelings of ethnic identity and family solidarity but extended to the world of work. The degree of their support for bilingualism is presented graphically in Figure 2.

These two figures help to portray one of our major conclusions, namely that these samples of ethnic parents want opportunities for themselves and their children to juggle two cultures, that is, to become bicultural and bilingual Americans rather than to give up heritage cultures and languages in order to become "American." In short, their responses suggest that they want members of their families to become "double breeds" rather than single breeds or, possibly, half-breeds.

Puerto Rican and Mexican Americans

The parents representing the two Hispanic groups in Pontiac — Puerto Rican and Mexican Americans — strongly endorse multiculturalism (see Figure 1). Puerto Rican parents are especially committed to maintaining their heritage culture and language. Both samples of Hispanic parents are also as favorable toward bilingualism as were the ethnic groups in Hamtramck. Both Puerto Rican and Mexican respondents feel that their children will benefit in terms of their social identity and in the practical world of work by being fluent in both Spanish and English.

Puerto Rican American parents take a particularly strong stance on the role public schools should play in promoting bilingualism. While Mexican American parents want their children to be bilingual, they feel that community-based language classes might be an appropriate context for maintaining the heritage language. Puerto Rican American parents, however, believe that public schools have a responsibility to promote both Spanish and English for their children.

White Middle and Working Class Americans

How do our samples of white Americans feel about multiculturalism and assimilation? Do their perspectives on these issues clash with those of ethnic newcomers? The research suggests two quite different answers to these questions, one for middle class whites and a second for working class whites.

Middle class white parents revealed a surprisingly favorable perspective on multiculturalism, one that suggests an appreciation for the adjustment pressures experienced by ethnic newcomers and black Americans alike. They have favorable attitudes toward each of the ethnic groups, including blacks, in the community; they assign each group positive personal attributes; and they express willingness to interact with other groups at all levels of social distance. They also support the idea of keeping heritage cultures and languages alive in the home and community but draw the line at having public schools use languages other than English in the instruction of language minority children. For their own children, however, they prize bilingualism, even when developed through schooling, for its social, intellectual, and career-related consequences. We interpreted this comparatively strong support of multiculturalism and this personal appreciation of ethnic newcomers as a derivative of the favorable self-view the middle class white parents displayed, including the feeling of security they have in their social position.

At the same time, white working class parents displayed a quite different, essentially hostile attitude not only toward multiculturalism but also toward ethnic newcomers and minorities. Because the white working class sample was comprised mainly of people who had come to Detroit from various southern states, keeping family and residential contacts in both places and moving from one site to another depending on available work, we can in no sense generalize these results to other working class white Americans. This particular group, however, with its own distinctively southern American cultural heritage, takes a neutral stand on the debate about multiculturalism versus cultural assimilation. Other than this neutrality, their attitudes toward all other ethnic groups in the community are negative and stereotyped to the point of being disdainful. They attribute no favorable characteristics to any group other than white Americans, and they are inclined to keep all other groups at extreme social distances, ethnic newcomers as well as blacks. This generally negative attitude shows itself as well in their manner of questioning why ethnic newcomers should want to keep heritage cultures and languages alive and in the strong stand they take against culture and language training, other than "American," in the public schools. They do, though, see substantial advantages for their own children were they to become bilingual.

In sum, then, what we found in this urban community is that the more established, mainstream white parents fall into two strikingly different groups in terms of attitudes. The white middle class group emerges as supportive of multiculturalism, whereas the white working class group appears suspicious, unfriendly, and potentially threatened by cultural and racial diversity. This clear contrast in the attitudes of two subgroups of white Americans may pose difficulties for both ethnic newcomers and long-term minorities as they try to adjust to the American scene: If they were to generalize about white mainstream

Americans through experiences with one social-class group only, they would likely be misled.

Black Americans

What about black Americans' perspectives on multiculturalism, multilingualism, and public education? Are they consonant or dissonant with those of other ethnic minority groups and with those of mainstream white Americans? Since we surveyed separate samples of black parents in Hamtramck and Pontiac, we have a relatively broad base for drawing the following conclusions. In Figure 1, the average of the two samples is depicted.

It became clear that black American parents are generally favorable toward multiculturalism and generally against assimilation. Their attitudes toward other ethnic groups are most similar to those of the socially dominant group in the community. Thus in Hamtramck, their attitude profile approaches that of Polish Americans and in Pontiac to that of middle class whites. In both sites, black parents give consistent arguments to bolster their stand, as, for example, that pressures to assimilate would perturb the identities of ethnic minorities and that the nation would lose the best that each ethnic group has to offer.

On the issue of heritage language maintenance, black parents would like their own children to develop full bidialectual skills involving black English and standard American English, but an overemphasis on black English is mistakenly seen as dysfunctional and inappropriate. The generality of their position is seen in the strong endorsement they give to other minority groups' attempts to keep their heritage languages alive. They feel that these other languages should be kept up at home and in the community, but they are hesitant about having ethnic languages used in the public schools. Thus they argue that heritage *cultures* should be sustained in public schools much more than heritage *languages*. This position brings the blacks in line with Polish American parents in Hamtramck and away from the Arabs and Albanians, and in Pontiac, it makes them very similar to middle class whites and different from the Hispanics.

In general, blacks hold basically favorable views of other ethnic groups, and they rate themselves similarly. They recognize that certain other ethnic groups are somewhat favorable towards blacks (e.g., the Polish Americans and the middle-class whites), and in these instances they contribute to a mutuality of respect and appreciation.

This similarity of perspectives of black and middle class whites in our study parallels closely the findings of Lorand Szalay, who discovered that the "psychocultural distance between black and white Americans was relatively narrow, compared with the distance between Latin American immigrants and both groups" (Cunningham, 1984). Our work, however, reveals striking differences between socioeconomic subgroups of white Americans.

Black parents thus present themselves as supporters of multiculturalism, as a group that is sympathetic to other ethnic minorities, as a people who have their own valued culture and language style to preserve, and as coshapers and cocontributors to the "American way of life."

In summary, this community-based study, planned as an up-to-date pulse-taking of urban Americans' attitudes toward multiculturalism versus cultural assimilation, found: (1) a strong cross-subgroup support for culture and language maintenance not only from working class subgroups of ethnolinguistic minority groups but also from working class blacks and middle class whites; (2) support for multiculturalism even from certain subgroups who have resided in the United States for over twenty-five years (e.g., Polish and Mexican Americans); (3) widespread support for bilingualism, which is seen as a means of enhancing economic and career advancement; (4) endorsement from all ethnolinguistic immigrant groups for public school involvement in teaching about heritage cultures, with support also from two long-term resident groups, the blacks and middle class whites; (5) diversity on the idea that public schools might use heritage languages for instruction, some groups favorable (e.g., the Arabs, the Albanians, and the Hispanics) and others (the Polish, blacks, and the middle class whites) with reservations; and (6) one group, the working class whites, distinctly out of line with all others because of attitudes and values that are negative toward multiculturalism and basically racist in makeup.

Going into the community in this fashion makes us question whether the purposes and aims of SL and FL specialists, as schematized earlier, are adequate and sensitive to social realities. The same survey is currently underway in Miami, Florida with new subgroups: Cuban Americans, Nicaraguan Americans, and Haitian Americans as well as mainstream blacks and whites (Taylor & Lambert, in progress). The same general patterns of outcomes are apparent, suggesting that parents of these language minority groups also favor multiculturalism over assimilation, bilingualism over a forced English only alternative, and a desire to become bicultural rather than forfeiting a heritage culture in the process of becoming Americanized. These parents seem to say that they want their children to be as American as anyone else, and that, given half a chance, they will be able to juggle American and heritage cultures with no great difficulty and that the nation will be enriched in the process.

Implications of These Community Surveys

What these community surveys suggest to me is that the aims and purposes of SL and FL education need to be realigned so that, through collaboration, the best of each form can be jointly focused on improving the learning experiences of both SL and FL users. The changes I have in mind are something more than merely expanding the role of SL specialists, for it is unlikely, because of their training, that they will be able to deal adequately with the variety of social and cultural factors involved in either form of education. They cannot do it alone, but they could in conjunction with FL specialists. For instance, Wong (1987) presents a constructive critique of the inadequacies of the SL approach on its own when directed at the issue of language education for Asian immigrant and refugee youngsters in America. This suggests to me that the expertise of FL specialists could be capitalized on by SL specialists so that important and socially relevant issues such as the contrasts and similarities of cultures and values can be integrated into either SL or FL programs.

At the same time, FL specialists need to expand their interests from tight preoccupation with the classics to include the modern contemporary world of foreign languages and cultures. Let me give three examples of what I have in mind, illustrated by the work of Howard Nostrand (1974), Lawrence Wylie (1957; 1966), and Eleanor Jorden (1990). All three started their careers as FL practitioners, but each broke away from conventional FL teaching by probing various aspects of culture and human interaction in contemporary foreign societies. Each also made collaborative contacts with SL specialists and other behavioral scientists.

Nostrand collaborated extensively with sociologists, anthropologists, and classical FL specialists in order to map out a network of societal values and distinctive cultural orientations of a complex society like France that have held up over centuries. His work represents some of the best cross-cultural psychoanthropology I have ever encountered, and his FL courses on French people and their language were some of the best ever produced. Similarly, Lawrence Wylie became more than a conventional FL specialist when he took a year's leave to live among French people and study them and their cultural ways. His Village in the Vaucluse and a follow-up study of a second community, entitled Chanzeaux, are not only wonderful cross-cultural investigations but fascinating introductions for American students to French people and their language.

Eleanor Jorden (1990) realized, as an FL specialist in Japanese, that FL and the significance of interpersonal communication in the Japanese society were so interlocked that a detailed, fine-textured analysis of the cultural meanings of messages had to be worked out in order to teach the language properly. The realistic planning of her video program of episodes of interpersonal interactions allows students to learn concepts in Japanese as well as the sociocultural significance of what is said or not said and how and why each participant behaves as he/she does. Joint efforts of this sort can make real changes in language education for both SL and FL users.

Two Basic Restraints on Attempts to Improve SL/FL Education

I see two fundamental restrictions, however, that have to be understood and dealt with by those interested in making changes. The first is a no-nonsense demand on the part of users that more be supplied in SL and FL education than has been the case. The second restraint is time, that is, how suppliers can optimize the time spent on SL or FL education. Once these requirements are taken into consideration, various new suggestions for improving SL/FL education come to mind.

Demands for Higher Levels of Achievement in SLs or FLs

In today's world, parents, and through them children as well, are disenchanted with what language training programs have traditionally been able to do in developing useful, effective SL or foreign language skills. Conventional three-year high school programs in a FL, or a college equivalent, rarely instill useful skills. Even with pessimistic expectations, however, parents and students nowadays still want more and feel they need more than they are likely to get from traditional SL or FL offerings. This increased demand for more stems, I believe, from various sources of pressure. For example, the world of work is calling for applicants with high level bilingual/bicultural competence. Furthermore, linguistic minority groups in urban centers are becoming large enough and bilingual enough to shut mainstream white and black American workers out of competition for valuable jobs because they do not have bilingual/bicultural skills. For example, Cuban Americans in Dade County, Florida, Korean Americans in sections of New York, and Iranian Americans in other sections of Los Angeles are now in power positions where they decide who will be hired. This often means that blacks in Miami need high-level communicative skills in Spanish if they do not want to lose their work possibilities, starting with the taxi business. Similarly, white anglophones can be locked out of the banking business if they can't function in Spanish. It also means, of course, that Cubans, Koreans, and Iranians can be locked into a limited ethnic network of opportunities if they don't master English (see Chira, 1990, for an example of Korean American power in New York City).

For a small subgroup of Americans, demands for greater competence in foreign languages or second languages are on the increase, I believe, because this minority at least realizes that multiculturalism in the nation will only work if all ethnolinguistic groups are open to and considerate of ethnic differences.

These more perceptive citizens realize that exaggerated forms of ethnocentrism develop when ethnic groups are isolated or ignored and that ethnocentrism engenders xenophobia and other aspects of intergroup distrust. A possible solution, they would argue, would be to encourage a widespread program of learning one another's languages as a means of fostering ethnic group appreciation and societal peace.

Regardless of the motivations, it is safe to assume that the users of both FL and SL education expect and want more than has traditionally been delivered by FL/SL suppliers and that suggestions for changes in these professions must incorporate this strong desire for more. What is really wanted, I believe, is a functional bilinguality in the mother tongue and another language, whether people realize this or not.

Time as a Determining Factor in Raising SL/FL Achievement Levels

Time enters into all formulas aimed at enhancing language achievement skills. To devote more curriculum time to learning languages means less time for the development of other very necessary skills. Time available for languages can be stretched out if SL/FL training is pushed back to early school years, and SL specialists can determine, through evaluative research, when the best starting time might be. But devoting more time to languages may shortchange the mainstream child in the development of math and science skills, and in the case of the minority child given extra time in English, shortchange him/her because the heritage language is neglected along with math and science.

Others in the fields of SL/FL focus on filling time better by improving the format of SL/FL programs. Here the SL specialists are making clearly valuable contributions. For instance, Tucker (1990) and Crandall and Tucker (1989) have documented the value of emphasizing content-based SL/FL teaching over language focused teaching; of introducing languages through the media of problem-solving exercises, through the use of decontextualized presentations and through cooperative learning approaches. Others (Swain, 1990; Lindholm, 1990c) have shown that language education programs save time and enhance achievement levels particularly when attention is directed to developing reading and writing skills in the SL/FL as early and as fully as possible. Doing so appears to root better the new language and thus progress is augmented.

Still others attempt to use time more profitably by providing instruction of academic content through the medium of the new language being taught/learned. The promise in this case is that both content matters and the target language can be processed in parallel and both can be acquired efficiently within a common time frame. This incidental acquisition of language while learning content matters — two forms of learning transpiring simultaneously — is a distinctive feature of language immersion programs (Lambert & Tucker, 1972; Genesee, 1987). These can take various forms: early immersion, delayed or late immersion, total or partial immersion, double immersion (e.g., Jewish youngsters in Montreal who have only English as a home language are taught half-time through Hebrew and half-time through French for most of the elementary school years), or two-way bilingual immersion (e.g., in the United States, classes comprised 50/50 of anglophone and Hispanic children are instructed half day by an English speaking teacher and half-day by a Spanish-speaking teacher).

In the suggestions for changes in SL/FL education that follow, many of these attempts to optimize the time and effort spent on language learning emerge as important components of a possible plan for improving language training, a plan that relies on the collaboration of SL and FL specialists.

A Plan for Improving SL and FL Education

When policy decisions are made about education for language minority children, it is inappropriate, in my way of thinking, to let language considerations play the dominant role, even in the case where the language minority youngster has a home language different from that of the school and of the host nation. Rather than emphasizing language, the educational offerings — the basic content matters of schooling — have to be kept clearly in the center of focus, and what is taught needs be deep and comprehensive because the children and families involved have enough problems of coping, belonging and succeeding in a new land without being shortchanged with a superficial or nonrelevant program of education. With attention focused squarely on providing a comprehensive, better-than-average, education for language minority students, policy makers only then are in a position to think profitably about language issues, e.g., the psychological realities of language — that languages are always intimately linked with people's identities and social skills and with their feelings of security and confidence; and the social realities of language — that language programs have serious implications not only for a particular target group but also for all other groups who share the same social environment and who interact with those in the target group — for example, black Americans who can easily feel neglected and threatened by remedies aimed at language minorities. The needs of blacks, therefore, need to be included in any really useful plan from the start (see Lambert and Taylor, 1987; 1990).

A New and Promising Form of Two-Language Education for Both SL and FL Users

Ironically, the complex issue of helping language minority children become educated and accommodated to American society is no longer an overwhelming problem for many of us in the specialized field of language education. This is so because there is now persuasive research information available on how language minority children can become both well educated and comfortably Americanized at the same time as English-speaking American mainstreamers can become skilled in a foreign language.

In reviewing the highlights of this research evidence, I will draw on Canadian experiences that led to much of the early experimentation. Canadian experiences may also help American readers get some perspective on their own problems since Canada, like the United States, is struggling to make its society fairer not only for Canada's two "founding peoples"—the French-speaking and the English speaking — but also for numerous other language minority groups comprising the "Canadian mosaic." These examples are pertinent to American society because similar social processes are clearly at play in both settings. They are more visible in Canada because of sociopolitical pressure from French speaking Canadians in Quebec for linguistic, cultural, and political independence from the rest of the country (see Esman, 1987; Lambert, 1988).

Although there are numerous Canadian/American parallels to draw on, there are still important differences. For instance, Canada's constitution has clear provisions for the protection of the language and culture of both French and English speaking subgroups, and although the government has a policy favoring multiculturalism, it does not provide extended financial support for education conducted in any of the numerous other home languages spoken in Canada. Since World War II, immigrants with languages other than English or French make up a sizable proportion of Canada's population. To its great credit, the United States has federal laws requiring education help — including assistance from bilingual teachers and aides — for all non-English-speaking ethnic groups who might be placed at a disadvantage in schools conducted in English only. On the other hand, the United States shows no signs of recognizing or appreciating the *de facto* bilingual character of the nation as a whole, which now has nearly as many people with Spanish as the home language as there are people in the total population of Canada. And the English/Spanish bilingual character of contemporary America is only one strain since there are various other equally vital ethnolinguistic groups, each contributing to a fascinating multiculturalism in the American society. Thus, both America and Canada have much more to do in their attempts to cope with multiculturalism (see Lambert and Taylor, 1990).

French-speaking Canadians have had a long history of finding themselves second class citizens in a social world which has reinforced Anglo-American values and the English language. The second class status manifested itself in the form of French speaking Canadians playing subordinate roles to English Canadians, the dominant subgroup in Canadian society, comparable to the English-speaking white mainstreamer in the United States. Not only have French Canadians been grossly underrepresented in the upper levels of Canada-wide status hierarchies, but even in the Province of Quebec, where they constitute some eighty percent of the population, French Canadians have not, relative to English Canadians, made it occupationally or economically, and their style of life has been ignored, ridiculed, and blamed as the cause of their social and economic position. The trouble is that this type of thinking becomes contagious, and, over time, even members of the marked minority group begin to believe they are inferior in some sense and blame themselves for their inferiority. It takes much reflection in frustrating situations of this sort to see through the sophistry and realize that one's ethnic or social class group is in no way inherently inferior, but simply that those with the power advantages have learned well how to keep the advantages and that their social class cushion makes keeping power relatively easy for them. Stereotyping or otherwise marking minority groups — people they really know very little about — becomes an effective way for the majority group to keep others out of the power sphere.

As social psychologists, several of us at McGill University began to study this state of affairs in Canada some thirty years ago just as two extreme solutions to the "French Canadian problem" were coming into vogue: 1) French Canadians should pull up their socks and compete — meaning they should master English and Anglo-American ways while toning down their French Canadianness; 2) French Canadians should pull apart or separate — meaning they should form a new independent nation where they could be masters of their own fate and where the French Canadian language and culture could be protected. Both alternatives worried us because one meant giving up a style of life that was precious, and the other meant closing a society through separation, "closing" in the sense that Karl Popper (1966) uses the term in describing sociopolitical attempts to create a conflict-free subworld where the "good old ways" will be protected. Instead we viewed the French Canadian way of life as something valuable for Canada as a whole — a nation whose potential and fascination rest in its multiculturalism/multilingual makeup, whether or not it was appreciated as such by the majority of English or French Canadians.

So we became interested in reducing if possible the ignorance of French Canadianness and in enhancing an appreciation for it among Anglo-American children, and this became the guiding purpose for the research initiated at McGill on "early immersion" schooling (Lambert and Tucker, 1972). In immersion classes, English speaking children, with no French language experience in their homes and little if any in their communities, enter public school kindergarten or grade 1 classes that are conducted by a monolingual French speaking teacher. This "early immersion" or "home-to-school-language-switch" program, as we call it, is kept exclusively French through grade two and only at grade two or three is English introduced, in the form of a language arts program, for one period a day. By grade four particular subject matters are taught in English (by a separate English speaking teacher) so that by grades five and six some 60 percent of instruction is in English.

Note the special features of this innovation. English- speaking mainstream Canadian children were introduced from the start of schooling to a language that was as "foreign" to most of them as German or Greek would have been, even though French and English are the nation's two official languages. The teachers were thus FL specialists even though their main training was as elementary school teachers functioning in their native language. The program provided an opportunity for collaborating among FL and SL specialists, with the involvement of social psychologists and educationists.

The concept of immersion schooling was based on a simple premise; that people learn a foreign or second language in much the same way as they learn their first, and that languages are best learned in contexts where the person is socially stimulated to acquire the language and is exposed to it in its natural form.

The consistent findings from nearly twenty-five years of longitudinal research on children in immersion programs permit several conclusions which bear not only on the linguistic consequences of the programs but the psychological and social consequences as well: 1) Immersion pupils are taken along by: monolingual teachers to a level of functional bilingualism that could not be duplicated in any other fashion short of living and being schooled in a foreign setting. 2) Pupils arrive at that level of competence without detriment to home language skill development. 3) Pupils do not fall behind in the all important content areas of the curriculum, indicating that the incidental acquisition of French does not distract the students from learning new and complex ideas through French. 4) Immersion pupils do not experience any form of mental confusion or loss of normal cognitive growth. 5) They do not experience a loss of identity or appreciation for their own ethnic background. 6) Most important of all in the present context, they also become informed about and develop a deeper appreciation for French Canadians by having learned about them and their culture through their teachers, through their developing skill with the language, and through familiarity with the literature and values of French Canadians (see Lambert & Tucker, 1972; Swain, 1974; Cummins, 1986; Genesee, 1987).

What is exciting about this program, over and above its educational and cognitive impact, is that it opens children's minds to an otherwise foreign and possibly threatening outgroup. It also provides them with sociopolitical insights that monolingual mainstreamers rarely develop. For example, the immersion children come to the realization that peaceful democratic coexistence among members of distinctive ethnolinguistic groups calls for something more than simply learning one another's languages (Blake, Lambert, Sidoti, Wolfe, 1981; Cziko, Lambert, Sidoti, & Tucker, 1980). Having learned the other language well and having learned to appreciate the other cultural group, children with immersion experience, compared to controls, realize that effective and peaceful coexistence calls for something even more important — opportunities for both ethnic groups of young people to interact socially on an equitable basis. This is a very sophisticated insight that most adults never attain.

Thus, a new approach to the development of two-language skills is now available, and since it works as well in other parts of Canada, where few if any French Canadians are encountered in social life (Swain, 1974; 1990), this approach, or some variation of it, can be expected to work equally well in the United States as preliminary studies show (see Genesee, 1987).

By focusing on subject matter mastery and on making language learning incidental, immersion programs differ substantively from SL teaching programs (e.g., French-as-a-second-language programs), in which subject matter mastery is not a main goal, in which the focus is placed on the second language, and in which very little time is actually devoted to the second language. The SL component also becomes the responsibility of a specialist rather than the classroom teacher. Thus, immersion programs are much more intense and comprehensive than SL programs; and since no specialists are involved, the cost of immersion programs is hardly any different from normal costs since the classroom teacher is also the language specialist, and the class size (e.g., thirty to thirty-two pupils to a teacher in Canada) is kept normal. There are no paid native speaker teacher aides in immersion classes.

Immersion education differs from typical bilingual education programs as conducted in North America. No bilingual skills are required of the teacher who plays the role of a monolingual in the target language, never switching languages, reviewing materials in their other language, or otherwise using the second language. Instead, two-language competence is developed through two separate monolingual instructional routes.

There is actually a large number of communities in some twenty states of the United States where comparable early immersion programs, either total or partial, for mainstream English-speaking children are underway, and these involve not only the popular languages but also the less popular, e.g. Arabic, Russian, Dutch, Japanese, Cantonese, Hawaiian, etc. From all available accounts, they are working splendidly. Part of the reason for their success is that school administrators and principals, after an initial period of skepticism and wariness, become extremely pleased with the outcomes. Furthermore, the costs of the programs are surprisingly low, compared to second-language-teaching programs, because the regular teachers' salaries simply go to the new "foreign speaking" teachers.

But what counts most as success is the pride of progress reflected by teachers, parents, and pupils. For example, Frank Grittner, the supervisor of Second Language Education for the State of Wisconsin, has collected data on third grade English- speaking children (few with German ethnic backgrounds) in a German immersion program in which they were taught through German for three years (Grittner, 1985). That particular immersion program was part of a plan for desegregation and thus some 40 percent of the pupils involved were black. At the end of grade three, 100 percent of the German immersion pupils scored in the average to above average range on the Metropolitan Achievement Test for Reading (in English) compared to 70 percent for Milwaukee schools in general and 77 percent for United States norm groups. Likewise on the mathematics test (also tested through English) the respective average scores were 92, 71, and 77 percent. Similar outcomes are available for English speaking American children in a French immersion program in Holliston, Massachusetts; in Montgomery County Public Schools in Maryland; and in the Cincinnati, Ohio Public Schools (see Genesee, Holobow, & Lambert, 1990; Holobow, Genesee, & Lambert, 1990), as examples among many others.

Furthermore, there is strong evidence to show that monolingual English speaking Canadian children can handle easily a "double immersion" program. For example, French and Hebrew are used in separate streams as the languages of instruction for English-speaking Jewish youngsters in Montreal (Genesee & Lambert, 1983). In another example, Mohawk and English are the instructional languages for Mohawk students in reservation schools outside Montreal (Holobow, Lambert, Genesee, 1990). The success of double immersion programs, incidentally, should give second thoughts to Canadian policy makers who are more prone to promote multiculturalism vocally than they are to provide means for at least some instruction via heritage languages. The point is that ethnic minorities in Canada might easily handle and profit from education that is trilingual — French, English, and heritage language.

The double immersion option may well become increasingly relevant in U.S. language education as particular ethnolinguistic minority groups increase in size through secondary migration movements. For instance, many Asian immigrant groups (e.g., Vietnamese, Laotians, Indians, Koreans) want and need English language skills along with heritage language maintenance, but they often find that their growing ethnic community is contiguous with an already large Hispanic community, as is the case in urban centers in Florida, New York, Illinois, California, making skill in Spanish a social and occupational necessity. Thus, one can easily imagine an increase in the relevance of the double immersion option in the United States wherein a heritage language, English and Spanish (or some other widely used "other" language) are provided for in public and/or community-based schoolings.

Psychological Implications of Immersion Programs

What this review indicates is that there is now available an effective means of developing a functionally bilingual citizenry in Canada and the United States for those seriously interested in FL education. The degree of functional bilinguality will vary, depending on the start time and the intensity of the immersion experience. The bilinguality can be striking, particularly in a variant of immersion in which Anglo children attend all-French schools (see Lambert et al. 1990). In this case, all aspects of competence in French (pronunciation included) were native-like or very close to native after five to six years of schooling. At the same time, the English language skills of the children involved were not only as good as but significantly better than those of matched controls who received conventional all-English schooling. Swain (1990) also documents this striking enhancement of English language skills at the upper grade levels in another setting in Canada. What is impressive here is the fact that relatively little time is allotted to instruction through English or about English (the Anglos' home language) in immersion education and thus the high level development of English competence has to be an enrichment derived, through transfer, from the high level development of French. Likewise, mathematics taught through French was also strengthened relative to that of non immersion control students, whether math competence was tested through English or French.

The evidence favoring immersion programs is both consistent and reliable. My concern is not that such programs may not be appreciated or implemented, but rather that they will be too quickly implemented without careful consideration given to their psychological and social consequences. Note first that the lead was taken by those basically interested in foreign language development, i.e., the English-speaking Canadian and American mainstreamers, the societal groups most secure in their own ethnic and linguistic identity. To the extent that mainstream children are sensitized to and educated in another language and culture, the chances of developing a fairer, more equitable society are better. Better too are the chances of improving the self-views of ethnolinguistic minority children who are complimented and heartened when they realize that mainstream childen are making sincere gestures to learn about them, their languages, and their ways of life.

We have referred to this process of developing bilingual and bicultural skills among English-speaking Canadian or American children as an "additive" form of bilingualism (see Lambert & Tucker, 1972; Lambert, 1974), implying that mainstream anglophone children, with no fear of ethnic/linguistic erosion in Canada or the United States, can add one or more foreign languages to their accumulating skills and profit immensely from the experience — cognitively, socially, and even economically (see Lambert, 1978; Lambert & Taylor, 1990). Most mainstream Anglo parents, once informed about immersion, are immediately aware of these advantages and become very eager to have their children enrolled in immersion programs or variants thereof. They are excited by the possibility that their children will get something more than the traditional foreign language programs that they were offered a generation ago and which failed to develop either language competence or cultural sensitivity.

Two-Language Education from an SL Starting Point

We draw a very sharp contrast between the "additive" form of bilingualism described above and the "subtractive" form, which constitutes a totally different psychological and social reality, has different outcomes, different potential hazards, and different means-to-ends demands. The hyphenated American child, like the French-Canadian child, embarks on a "subtractive" bilingual route as soon as he/she enters a school where a high prestige, socially powerful, dominant language like English is introduced as the exclusive language of instruction. Perceptive members of ethnolinguistic minority groups have good grounds for the worry and concern they express about the steamroller effect of a powerful dominant language; it can, by contrast, make foreign home languages and cultures seem "homely," ghosts in the closet that children would prefer to eradicate and suppress. The effects of this subtractive aspect of bilingualism among francophone university students in Quebec has been studied by Taylor, Meynard, and Rheault (1977), who found that English was seen as a potential threat to their ethnic identity, and thus functioned as a negative motivation in learning English in school. Second, it turned out that those francophones who were least fluent in English were those who felt their cultural identity was most in jeopardy. Just as French is too precious to be subtracted out of Canadian society, so too are the many "foreign" languages and cultures extant in America today too precious to be eradicated from that society.

Even more worrisome at the individual level is the cognitive risk children run when their basic conceptual language — the linguistic system used to form and express thoughts and ideas from infancy on — is abruptly put aside and suppressed so as not to interfere with the new language of the school and of society. They are asked to reprogram themselves, linguisticly and cognitively.

A major responsibility of education policy makers then becomes one of transforming subtractive forms of bilingualism into additive ones for the benefit of the ethnolinguistic minority groups involved. Clearly what the language minority children don't need is immersion or submersion in an exclusively all English program. Too many can't swim in the sink-or-swim option. Community experiments that attempt to implement such transformations, although few in number so far, are now underway. Two experiments with which I have had firsthand experience (see Lambert, 1984) are those with Franco-American youngsters in northern New England (Dub* & Herbert, 1975; Lambert, Giles, & Picard, 1975; Lambert, Giles, & Albert, 1976), and with Mexican American youngsters in San Diego (Herbert, 1986; Lindholm & Fairchild, 1989). Basically these programs call for schooling to be conducted on a part-time basis in the likely-to-be-neglected heritage language of the ethnolinguistic minority child, starting at kindergarten or grade one. The programs continue until it is certain that the home language of the language minority child is strongly rooted and that the children themselves get rooted and oriented as to their ethnic identity. This initial attention to the home language permits them to grasp and keep up with the important content matter, like math and science. The programs, of course, provide a concurrent strand of English language instruction (in the form of ESL or English immersion, taught by a separate teacher) for part of the day, but the dual-track program, involving separate home language and English instruction, is kept up for the first four to five years of primary education. Then, the research findings suggest, a switch to a mainly English language program can more safely take place.

The results of these exploratory attempts to transform subtractive bilingual experiences of language minority children to additive ones are very impressive. For instance, after a five-year trial, the New England Franco-American students in partial French immersion classes outperformed control students in various tests of English language skills and in academic content subjects such as mathematics, studied partly via French. This means that with fifty percent less instruction time alloted to English than the controls following an all-English program, those given half of their instruction through French scored significantly better on tests of English than did the controls. The magic apparent in this finding is that teaching via French had enhanced these students' skills in English. In other words, assisting in the two-language development of these children, had brought them (and not the controls) up to American-wide norms on English and academic content, giving them a better chance to succeed. The control group's scores reflect the academic and social difficulties normally encountered by language minority children undergoing the subtraction of a linguistic and cultural homebase. The magic also involves an amazing transfer of skills from one language to the other and a newly generated sense of pride in being French and in having at home a surprisingly valuable heritage language (Lambert, Giles, & Picard, 1975). But the ethnic pride was not restricted to having French roots; they had been brought to realize that they were both American and French and that they were happy to be American because the society had provided these simple opportunities for them to be French as well.

The outcomes of the San Diego project are equally exciting because the Hispanic children, who started off as "limited English proficient," were, at the end of grade six "at or above mean percentiles, based on national norms, in reading and mathematics achievement in two languages" (California State Department of Education, 1990, p. 104). They were also performing significantly above peer groups of Hispanic youngsters who had little or no Spanish instruction, i.e., mainly an all- English program. The magic in this case is that these children, capitalizing on the opportunity to develop bilingual skills in the heritage language and English, apparently were able to pull themselves up to national norms and away from the fate of "severe academic under-achievement on measures of reading and writing proficiency" (California State Department of Education, 1990, p. 104) that characterizes Hispanic youngsters who are placed in all-English "submersion" schooling.

Many such programs are now underway in the United States, mainly in the form of late-exit options, a compromise form of "maintenance bilingual" programs wherein language minority children are not exited from two-language instruction programs as soon as they show minimal competence in English (see Ramirez, 1989). In practice, it is no simple matter to get these programs started or to maintain them because language minority parents are easily misled in the belief that there are dangers in having home language instruction in the primary grades (e.g., in Southern California, that speaking Spanish means "wheelbarrow," while speaking English means "fancy auto"; or in northern Maine, that speaking French means woodchopping, while speaking English means getting ahead).

Richard Tucker has evaluated a number of such community-based studies and has come to the conclusion that there is:

> a cumulative and positive impact of bilingual education on all youngsters when they are allowed to remain in bilingual programs for a period of time greater than two or three or even five years and when there is an active attempt to provide nurturance and sustenance of their mother tongue in addition to introducing teaching via the language of wider communication (Tucker, 1980; see also Tucker, 1990).

This reasoning is consistent with Cummins' (1987) findings that the attendant benefits from bilingualism manifest themselves when competencies in both languages are brought up to active, fairly equivalent levels. These levels are best achieved, incidentally, when reading and writing skills in the two languages are fully developed (see Swain, 1990; Lindholm, 1990).

Tucker's conclusion is also consistent with Lindholm's (1990) arguments for patience on the part of educators and parents because both "academic" and "conversational" types of language skill need to be developed in both languages before the full impact of these programs on academic success is manifested (see Lindholm, 1990, pp.20-22).

This, then, is one way that the American society can help develop a new generation of children who could comfortably become both American and Hispanic, Haitian, Polish, Navajo, Arabic, or whatever. But note an essential ingredient of this suggested plan. No time has to be taken from the major task of developing competence in the critical content subjects that make up a solid and demanding educational curriculum. The development of skills in two languages and two cultures need not get in the way of providing a thorough education in science, math, creative language arts, etc. Indeed, language minority youngsters need such an education as much as or more than anyone else, and it is the responsibility of education policy makers to produce a workable curriculum that permits language minority children to actualize their full potential while contributing to a new, ethnically rich society.

Social Implications of Two-Language Programs

It would be naive to assume that members of different ethnolinguistic groups would be interested in learning a second language for the same reasons. The distinction between additive and subtractive bilingualism discussed above points to motivational differences that have important consequences. It would be equally naive to assume that educational programs targeted for one group affect only that group. When a foreign language program is implemented for English-speaking white students, for instance, the effects would certainly be felt among members of the language minority and black communities. If the foreign language introduced were one spoken by a large group of immigrants, it could easily appear to blacks that English-speaking white students were being given preferential access to that community, and more generally, that the whites were in a position to add a skill that could make a powerful group even more powerful. Similarly, giving language minority children special educational attention, like providing them with instruction in their home language as well as English, would have an impact on other groups. It could be perceived that a particular language minority was being given advantages that allow them to become rapidly competitive, thus threatening strategic and well-established power relations and in the United States, hurting blacks in particular. Lambert and Taylor (1987) outline various strategies to deal specifically with American blacks, the too often neglected group, in matters of education policy making.

Two-Way Immersion Programs: Where FL and SL Education Logically Meet

The variants of immersion programs that might be implemented in the United States are limited only by one's imagination. Some of the precursors to the two-way immersion model are instructive. For example, Susan Thomas (1980) experimented with a "Language to Share" option wherein language minority adolescents (e.g., Italian or Portuguese Americans who, from home, had some conversational skills in a language other than English) were trained to be assistant teachers of their home language to pupils two or three years their junior. To prepare themselves, the real teachers made these junior assistants bone up on the writing/reading and vocabulary skills needed to teach. This became a compact, serious immersion experience for the adolescents which generated enormous interest in the half-forgotten home languages and incidentally in the teaching profession itself. Then there was a plan, never formalized but frequently used informally, for "language exchanges" wherein anglophones interested in learning a particular foreign language are paired up (under the supervision of a master teacher) with another person who has that language as a native language and who would be happy to exchange two or more hours of teaching per week in exchange for similar tutoring in English (see Lambert, 1974).

Then the first Canadian-style immersion program in the United States — the Culver City study (Cohen, 1974)—introduced a small subgroup of native speaking Spanish children into a Spanish immersion class (comprised mainly of anglophone pupils) and monitored the progress of both ethnolinguistic subgroups in both languages. At about the same time, Eunice Lear in San Diego (see Herbert, 1986) formally set up classes with approximately equal numbers of Chicano and Anglo pupils in a two-way program, laying down the paradigm for the current two-way programs.

What, then, is two-way bilingual immersion education? Tucker (1990) gives a clear operational definition:

> Suppose that there are 30 youngsters in a particular grade 1 class at a typical elementary school. Let us assume, for illustrative purposes, that 15 are anglo and 15 are Hispanic. The youngsters would be together in a class in which some portion of the day would be devoted to Spanish language arts (for the Hispanics), Spanish as a

> second language (for the anglos), English language arts (for the anglos), English as a second language (for the Hispanics), with the teaching of selected content material — let us say mathematics — in English, and other content material — let us say history—in Spanish. The idea is to offer a program of bilingual instruction over a several year period in which students from both of the ethnolinguistic groups would have an opportunity to develop and to hone their literacy skills while developing the fullest possible social and academic proficiency in their two languages (Tucker, 1990).

Lindholm (1990b) elaborates and emphasizes the FL and SL features of this form of education:

> Bilingual immersion education combines the most significant features of bilingual education for language minority students and immersion education for language majority students. Academic and language arts instruction is provided to native speakers of two languages using both languages; one of the languages is a second language for each group of students. Thus, for language minority, (i.e., non-English-speaking) students, academic instruction is presented through their first language and they receive English language arts and, depending on the particular program, portions of their academic instruction in English. For language majority (i.e., English-speaking) students, academic instruction is through their second language and they receive English language arts, and, depending on the program design, some portion of their academic instruction in English. The definition encompasses four criterial features: (1) The program essentially involves some form of dual language immersion, where the non-English language is used for at least 50 percent of the students' instructional day; (2) the program involves periods

> of instruction during which only one language is used; (3) both English speakers and non-English speakers (preferably in balanced numbers) are participants; and (4) the students are integrated for all content instruction. While program designs may vary, most have as their goal the development of true bilingual academic competence in English and another language on the part of both groups of participating students (Lindholm, 1990b, pp. 95-96).

This means, then, that over the elementary years language majority students (the FL users) receive a full Spanish immersion program while the language minority students (the SL users) are made literate and secure in their heritage language at the same time that they develop full competence in English. Students are brought to collaborate in one another's education, and FL and SL specialists exchange their experiences as they monitor and orient the program as teachers and advisors.

There is something elegant and uniquely American about this innovation. In one simple format it offers a mode of education that effectively satisfies the hopes of parents of both FL and SL users at the same time that it satisfies the needs of both FL and SL children, providing them not only with the two-language and two-culture skills that are useful in today's world but, as Anna Lietti (1989) of Switzerland puts it, with "survival skills" for tomorrow's world. As well, it makes a valuable place in the plan for both FL and SL specialists and for their cooperative input. Since English language arts as well as "heritage" language arts are always involved, there is a demand for the teaching of the history, cultural values, and classical treasures of the target languages as well as a technically up-to-date approach to communicative facility and decontextualized understanding of the languages.

How effective are these programs? Numerous states have implemented two-way bilingual immersion programs, but results from longitudinal research are just beginning to appear. Individual programs are described in detail in two recent reviews, one for the West Coast (California State Department of Education, 1990) and one for the East Coast (Massachusetts Department of Education, 1990). Charles Glenn (1990) gives a valuable overview. Tucker (1990) notes that these programs "hold great promise for building and for sustaining natural language resources within the United States," resources so valuable and precious for the SL user. At the same time, these programs offer opportunities for the FL user also to develop real bilingual skills.

What do the results so far show? Data on the San Diego study, the oldest example, are available through grade six. In this program, mixed classes of Anglo and Hispanic children are taught mainly in Spanish from preschool through grade five, limiting English to thirty minutes a day in kindergarten and to sixty minutes in grades two and three. English instruction increases for grades four through six up to one-half day, so that some content areas (reading, math, social studies) are taught through both languages, but the languages are always separated during any particular lesson. Throughout, cross-language peer tutoring is instituted (see Lindholm & Fairchild, 1989).

The results are impressive. In the upper grade levels, both the Anglo children and the Hispanic children (who were originally classified as LEP) were either at or above mean percentiles, based on national norms, in reading achievement in both languages and in mathematics achievement tested in both languages.

The native Spanish-speaking students in the two-way classes performed:

> above national norms in Spanish-language reading, and English-language math. In English reading, they averaged only slightly below national norms (46th percentile at grade 6). More important, all students made gains on the national norms, on all achievement measures, thus reversing the national trends of increasing between-group achievement disparities at higher grade levels (Lindholm & Fairchild, 1089, p21).

In other words, the language minority children in this and other comparable programs in California are given a new lease on education. Compared to what they would have done had they been in an all-English, sink-or-swim option or in an early-exit transitional bilingual education option, they are close to or above national norms in both English and Spanish. Since they score significantly above comparison groups of same-ethnic peers who were not in a two-way program and who thus would have had little opportunity to become fully literate in Spanish, their developing bilinguality has apparently helped them move up to national norms, providing them with genuine academic and linguistic "survival skills" for further education and for employment.

How about the anglophones in the San Diego study? By the nature of things in multicultural America, the Anglos are predictably children from more privileged socioeconomic backgrounds, and this advantage is reflected in their high percentile scores in English reading and English mathematics (74 percent and 83 percent), as would be expected (see California State Department of Education, 1990). But who would have expected them to do this well in English and mathematics (significantly better than their Anglo peers who were not in two-way bilingual immersion programs) since so much of their education, especially the first three years, was received through Spanish? They also score extremely high (72 percent and 81 percent) on tests of Spanish reading and Spanish math, which means that they are leaving elementary school with two languages in their repertory of skills — two for the price of one. They, too, have powerful survival skills to build on for their world of tomorrow.

Suggestions for Designs of Future Studies

Because the studies so far available are impressive and because they cater to the needs of both SL and FL users, a great deal of care is needed in documenting their strong and weak points and their generalizability to various sites across the nation. To make these studies resistant to peer-review criticism (see Gray, 1990, for a balanced appraisal), program evaluations need to be longitudinal in nature and they should involve carefully matched control groups of minority and mainstream children who are not in two-way immersion classes. Relying on national norms is too approximative because with norms it is difficult to create appropriate control groups who are matched on variables such as academic and intellectual potential and especially socioeconomic background.

There is a need also to equate the language minority and mainstream children who are mixed in two-way classes on social class backgrounds because, as is the case in several California-based programs, mainstream anglophone children more often have a clear socioeconomic advantage over Hispanic children and this could generate invidious comparisons which could in time deplete the academic self-esteem of the minority children. This means that Hispanic children from higher socioeconomic backgrounds should be sought out for inclusion and that more workingclass anglophone mainstream children should be included. There is no reason why less advantaged mainstream youngsters should not achieve as well as the more advantaged middle class children. For instance, in a recent longitudinal study of a partial French immersion program for inner city Cincinnati (Genesee, Holobow, Lambert, & Chartrand, 1990; Holobow, Genesee, & Lambert, 1990), the working class subsamples performed as well in tests of French skill after a three-year period as did the middle class groups, and black students performed as well as whites. Since working class and black children have greater needs for survival skills, these findings and the main point they demonstrate are important.

Finally, regional differences in the different ways two-way immersion programs are implemented will become important in the long-range evaluation. Presently, the East Coast is as involved as the West (see La Lyre, 1990). In Cambridge, Massachusetts, the Amigos two-way bilingual program is now in its fourth year, and it is used as a model by a number of other Massachusetts communities (e.g., Lawrence, Salem, Chelsea, Boston, Fall River) which have initiated or are about to initiate similar educational offerings. The Amigos program (see La Lyre, 1990, pp. 28-46) uses matched comparison groups, and it has similar socioeconomic profiles for the language minority and mainstream participants. The results to date are extremely promising, not only in developing bilingual competence for both SL and FL user groups and in maintaining age-appropriate academic achievement, but also in fostering more democratic, less ethnocentric inter-ethnic-group attitudes among the children enrolled.

The two-way immersion option is intrinsically attractive, and as other communities become involved (see Crawford, 1989), with their own distinctive ethnic, racial, and linguistic contexts, the real value and effectiveness of this new American attempt to improve the life chances of all its children — FL users and SL users — will be watched carefully and tested from every possible angle.

In summary, what I have attempted to do here is to highlight basic differences between FL and SL education in terms of the purposes, aims, and training of specialists and in terms of the quite different populations of people who are the recipients or users of FL in contrast to SL education. By exaggerating the contrasts between the FL and SL fields, one is able to discern a bifurcation and separation of purposes that dilutes the effectiveness of language education at a time in U.S. history when the demands for better language training, conducted within a restricted time frame, are increasing and posing serious social problems in the society.

In order to meet these demands and to deal with the time available for an adequate total education of young people, a plan for improvement is offered wherein FL and SL specialities are used collaboratively to implement two-way bilingual immersion programs in public schools so that the language needs of children in SL programs can be satisfied without short-changing them in terms of their heritage language or in their education in critical subject matters and so that, simultaneously, children needing FL education can also develop high level two-language and two-culture competence.

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THE STATE OF THE ART IN RESEARCH ON TEACHER TRAINING MODELS WITH SPECIAL REFERENCE TO BILINGUAL EDUCATION TEACHERS

Ellen Riojas Clark

INTRODUCTION

The changing makeup of the student population in education settings in the United States requires that the training of teachers be redefined. Demographic studies indicate that immigration patterns have changed and will continue to change the school and student population of the United States (Waggoner, 1988, U.S. Department of Commerce, 1988). The data suggests that multicultural and bilingual populations will play a stronger and a more pronounced role in the schools. Students from Asian, Slavic, Arabic, and Spanish-speaking countries are adding to the multicultural diversity of classrooms in all parts of the country. The needs of students in the classrooms of today and tomorrow will require that teachers have the attitudes, knowledge, and skills necessary for addressing the multicultural and multilingual demands of the schools.

In addition, disparity between city and suburban schools is becoming more apparent. Research shows a strong relationship between high minority enrollment, low income, low levels of parental education, and low school and test performance (Intercultural Development Research Association, 1990). The continuing increase in numbers of students from Spanish and other language backgrounds in the schools, the high number of minority students dropping out of school, and the achievement levels of culturally and linguistically different students affects how teachers are trained.

States are now becoming concerned with the quality of their education programs and are specifically legislating programs that are designed to improve education for the public school populations in their regions. Of specific concern to many states is the education of minority and linguistically different students (California State Department of Education, 1977, TEA, 1983).

The overall shortage of teachers also reflects a critical shortage of trained personnel equipped to work in bilingual, bicultural settings. The issue of training and retraining teachers to work in areas of special need has become paramount. Teacher preparation programs need to be reassessed, redefined, and redesigned in order to train school personnel for the dynamics of the student population now reflected in the schools, the community, and the classroom.

The process of defining teacher training for a multicultural world has to be based on an understanding of and an appreciation for multiculturalism as a positive force in American education. Educational, socioeconomic, and linguistic histories of ethnic minority groups require teachers to have a stronger understanding of the sociocultural realities that impact education in multicultural settings.

PURPOSE

For the purpose of this paper, teacher training will be addressed through an examination of the following two key questions:

- how bilingual teacher education has developed over the years and
- what should all teachers know and be able to do when working with minority students, and what should teachers in bilingual education know and be able to do with respect to educating linguistically and culturally different students?

The first section of the paper will describe the state of the art in bilingual teacher education from a historical perspective and describe the linguistic, cognitive, cultural, and social dimensions. The second part will describe the needed teaching competencies based on the redefinition of the student population.

OVERVIEW OF THE DEVELOPMENT OF BILINGUAL EDUCATION

Teacher Training Program

The historical overview of bilingual education is meant to provide information on the events that led to the implementation of bilingual education teacher training. The history of bilingual education in the United States is frequently divided into two periods: pre-World War I and post-1960 (San Miguel, 1990, August & Garcia, 1988). Prior to the 1960s, little attention was given to the language needs of non-English-speaking students. The neglect of language minority children's needs in schools led to federal intervention. But it was not until the midsixties that the federal government intervened as a result of pressure from ethnic minority groups and parents through the judicial system. Up until that time, language minority children attending public schools were generally instructed solely in English. Materials, curricula, and teaching methods used were not designed for English-speaking students. Teacher training programs in universities and colleges were designed to train teachers in pedagogy that utilized the majority language and culture.

As a result of the civil rights movement in the 1960s, a climate of social change was incorporated and the rights of language minority children became an issue. Ethnic groups motivated and spurred the passage of legislation such as the Civil Rights Act of 1964 and the Elementary and Secondary Education Act (ESEA) of 1965, which focused on the special needs of minorities (Ovando and Collier, 1985, p. 26).

The Civil Rights Act required that school districts that received federal monies must ensure equal access of national origin minority children to public education (Ambert and Melendez, 1985). The Elementary and Secondary Education Act (ESEA) of 1965 allocated funds for English as a second language (ESL) instruction and transitional bilingual education programs. ESEA was amended by Congress in 1965 with the passage of the Bilingual Education Act (BEA) of 1968, commonly known as Title VII.

Title VII, as originally conceived, was created to meet:

> the special education needs of the large numbers of children of limited English-speaking ability in the United States. Congress hereby declares it to be the policy of the United States to provide financial assistance to local education agencies to enable them to develop and to carry out new and imaginative elementary and secondary programs designed to meet these special education needs (P.L. 90-247).

The purpose of bilingual education as stated in the Bilingual Education Act, was to:

(a) provide English language skills,
(b) maintain the native language skills, and
(c) support the cultural heritage of the students
(Castellanos, 1983, pg. 83).

This was interpreted by proponents of bilingual education to mean that bilingual children should develop equal competence in English and in their native language and that they should understand and appreciate their own culture and others. Therefore, teachers in the maintenance bilingual programs should be proficient in both of the languages and have a deep understanding and acceptance of the students' cultures (Secada, 1990).

Another interpretation of the BEA was that the purpose of bilingual education was to improve the student's English-speaking ability so that they could assimilate into a mainstream classroom as soon as possible. According to this view, it is felt that the use of the first language in the classroom will retard the students' acquisition of English. Proponents of this view argue that if children are deficient in English, they need instruction in English and not in their first language. Teachers must then use English and be able to utilize ESL strategies to quickly develop the majority language and to assimilate students into the majority culture.

In California, the Committee to Draft Criteria for Bilingual Teacher Competencies stated that "Such a person shall be fluent in the primary language and be familiar with the cultural heritage of the limited-English speaking pupils in the bilingual classes he or she conducts." (State Board of Education, 1977). In defining the language proficiency competencies for bilingual teachers, California further broke them down into areas such a (1) understanding, speaking, reading, and writing, and (2) understanding of dialectical variations. Not only was stress placed upon bilinguality and biliteracy in all aspects of instruction, but also on the teacher's interaction with the students, parents, community, colleagues, and administration (State Board of Education, 1977). Needless to say, many teachers were not competent to this degree.

In 1974, Congress amended the BEA to include funds exclusively for bilingual education programs and defined such programs as those which used the native language as a medium of instruction in the classroom. Then, in 1978, the statute increased the program's emphasis on the mastery of English. Both of the amendments made provisions for teacher training programs, technical assistance and evaluation centers, materials development projects, and research activities (Ambert & Melendez, 1985).

The initial infusion of bilingual teachers into the field included those teachers who had not received formal training in the native language. In addition, the assessment of the teacher's language proficiencies was minimal. Nor were there standards set to evaluate the high degree of language competence needed to provide instruction in all areas of the curriculum. Waivers were given by school districts to teachers who agreed to learn a new language and to complete other certification requirements.

The first federal teacher training grants were awarded to institutions of higher education (IHEs) in 1967-68. The initial training grants were for providing bilingual certification for teachers already in the field. The first fellowships provided by Title VII for bilingual teacher education were awarded in 1974-75 (Johnson and Brinkly, 1987). Universities, up to this point, had not developed teacher training programs, criteria nor competencies for bilingual education teachers, methodology and, much less a curriculum. Needless to say, there was not a faculty in place to develop the curriculum, conduct the research, develop the theories, nor to do the training.

With limited Title VII funds, pressure grew at the state level to enact local bilingual education legislation to meet the needs of limited-English

Proficient (LEP) children (Ambert and Melendez, 1985). Most states did not respond to the training needs of bilingual teachers until the start of federal funding for Title VII teacher education programs (Santiago-Santiago, 1983). As a consequence, since teacher certification is one of their responsibilities, states have influenced the development of the criteria for bilingual teachers.

Title VII teacher training fellowships have dwindled over the years especially since the Reagan years. He de-emphasized native language instruction when he stated:

> Now, bilingual education, there is a need, but there is also a purpose that has been distorted again at the federal level. Where there are predominantly students speaking a foreign language at home, coming to school and being taught English, and they fall behind or are unable to keep up in so many subjects because of the lack of knowledge of the language, I think it is proper that we have teachers equipped who can get at them in their own language and understand why it is they don't get the answer to get the problem and help them in that way. But it is absolutely wrong and against American concepts to have a bilingual education program that is now openly, admittedly dedicated to preserving their native language and never getting them adequate in English so they can go out into the job market and participate (as quoted in Crawford, 1989, p. 43).

Each reauthorization bill since 1984 has diminished the role of native language instruction in funding programs, the consequence of the defunding is that the number of teacher training fellowship programs awarded to teacher training institutions has been reduced. The reduction affected the development of teacher training programs in IHEs since more than half of them received Title VII funds (RMC, 1981). Title VII funds allowed for faculty; research; program development: identification methodologies and strategies; provision for language training; the development of language proficiency measures; and other components for training bilingual personnel.

Development of bilingual education teacher competencies

Since 1971, California state legislation dealing with bilingual education has cited the critical need for bilingual teachers who are competent in the methodologies for teaching limited and non-English-speaking children. The California Department of Education was directed to "develop and recommend to the Commission for Teacher Preparation and Licensing standards for the certification of teaching personnel for bilingual classes." The section that describes the standard follows:

> "Bilingual-crosscultural teacher" means a person who (1) holds a valid regular California teaching credential, and (2) holds either a bilingual or a bilingual-crosscultural specialist credential. Such a person shall be fluent in the primary language and familiar with the cultural heritage crosscultural certificate of proficiency or other credential in bilingual education authorized by the Commission for Teacher Preparation and Licensing of the limited-English speaking pupils in the bilingual classes he or she conducts. Such a person shall have a professional working knowledge of the methodologies which must be employed to effectively educate those pupils. "Bilingual-crosscultural teacher aide" means an aide fluent in both English and the primary language of the limited-English speaking pupil or pupils in a bilingual-bicultural program. Such an aide shall be familiar with the cultural heritage of the limited-English speaking pupils in the bilingual classes to which he or she is assigned (E.C. 5767.2(h)(i)).

By June 1976, 11 states had adopted bilingual teacher certification or other special requirements for those persons teaching in bilingual settings. The trend toward establishing competency-based standards by which to assess bilingual teachers had begun (Waggoner,1977). In New York, the Aspira Consent Decree of August 1974, specifically stated that:

For eligible students, instruction for promotion and graduation must be offered in Spanish. The decree also mandates programs designed to develop children's ability to speak, read, write and understand English. It specifically rejects immersion as a technique of second-language acquisition and forbids pull-out programs. So that segregation will not occur, students in the program must spend classroom time with students outside the programs as their education needs permit. Materials used in the program must reflect, where appropriate, the culture of the children involved. Recognizing the need for additional competent personnel, the decree calls for affirmative teacher recruitment and specifies the necessary teacher qualifications (p. 27).

States have had particular influence on licensing and certifying bilingual teachers. However, states have been slow to respond to the training needs of bilingual teachers. Most states did not respond until the 1970s, following the start of federal funding for Title VII teacher education programs (Santiago-Santiago, 1983).

Bilingual education programs up to this point were described but the competencies that teachers should demonstrate were largely implied; though, in some cases, the knowledge and skills that bilingual teachers should have were stated. The Center for Applied Linguistics in 1974 produced an explicit and comprehensive list of teacher competencies for the bilingual education teacher. It identified the critical areas in which bilingual education teachers should have expertise. They offered eight categories: language proficiency linguistics, culture, instructional methods, curriculum utilization, adaptation, assessment, school-community relations, and supervised teaching. Carrillo in 1977 listed the following criteria for secondary school programs for Spanish speaking students: language, history and culture, professional preparation, and school community relations. In 1978, the U.S. Office of Bilingual Education published Competencies for University Programs in Bilingual Education, which listed language proficiency, course of study in bilingual education that included the use of materials and instructional practices for bilingual education, and school/community practices. Most guidelines for competency development or training occurred before research or evaluation of practice in bilingual programs was performed.

Competency statements are generally derived from several sources, including a research base, conceptual models of effective teaching, the professional experience of teachers and teacher trainers, and the goals of a particular training institution. Since research, teacher training and program funds for bilingual education were not allocated until the midseventies, most early lists of competencies were developed without the proper framework. Rodriguez (1980), in her preliminary study to isolate the characteristics of effective bilingual teachers, defined the following competencies: (1) positive regard, (2) non-authoritarianism, (3) self-confidence, (4) communication skill, (5) varied methodology, and (6) cultural knowledge. Most guidelines stressed that bilingual teachers should possess competencies in the following areas: (a) language proficiency, (b) the field of bilingual education, (c) linguistic theory, (d) culture, (e) pedagogy with emphasis on bilingual education and assessment, and (f) school and community relations, in addition to having knowledge of research (RMC, 1981).

Numerous factors contribute to the successful implementation of bilingual education programs, and experience has shown that the quality of the teaching staff is particularly important. Well prepared bilingual teachers and staff who speak the native language and understand the home culture appear to have the most direct influence on the cognitive and affective growth of students whose primary language is other than English.

Language Proficiency

Cummins (1980) believes that teachers and education policy makers must understand language proficiency if they are to make wise decisions about the roles of the first and second languages in the classroom. He says that there are two dimensions of proficiency: a social dimension, Basic Interpersonal Communication Skills (BICS); and Cognitive Academic Language Proficiency (CALP). BICS is acquired relatively quickly. It begins to emerge after the silent period; however, the development of CALP requires several years and is essential for academic achievement. CALP developed in any language facilitates the acquisition of other languages and the transfer of reading and writing skills from one language to another. The language proficiency issue for both students and teachers must be carefully understood. Effective instruction requires the use of the native language of language minority students. Teachers must understand the role of the native language and the impact of its use in helping language minority students meet the goal of learning the second language.

Compounding the issue of the use of the native language with the LEP student is the issue of the language ability of the teacher. Ada (1986) explains that native language ability may cause the bilingual teacher to feel less competent in the classroom. Both non-native and native speakers may feel this inadequacy. English-speaking teachers may not have had the opportunity to acquire full mastery of a second language. Neither native nor non-native speakers may have the cognitive academic use of the language to be able to teach in the "context-reduced, cognitively demanding activities of reading, writing, mathematics, science, and other school subjects" as explained by Cummins (1981). Ada (1986) states:

Members of language minorities who chose to become bilingual teachers may also have been victims of language oppression as children, when they were scolded or punished in school for using home language. (p.390). Other native language speaking teachers, who come to the United States as adolescents or adults, may feel similar inadequacy in terms of their English language mastery.

According to Blanco (1977), proficiency in the students' home language is not only an essential competency for the bilingual education teacher but also a basic one. In his 1975 study, Blanco found that within the teaching profession, teachers who are bilingual as a result of having spoken a language other than English in the home usually cannot use it for instructional purposes unless they have had extensive formal training in the four skills and in the technical vocabulary of the different subject areas.

It was not surprising to find in the American Institutes for Research (AIR) report in 1978 and in the 1984 Developmental Associates national study, that only half of the "bilingual" teachers interviewed admitted being able to speak a second language. Again, a teacher's language proficiency in the mother tongue affects the quality of education for LEP students. It is not quantity but the quality of native language instruction that will ensure a students' attainment of conceptual knowledge (Lindholm, 1990). Crawford (1989) asks the following questions: Does the program use the mother tongue to provide translations or to cultivate cognitive-academic language proficiency? Is contextual information taught in the native language in order to facilitate the acquisition of English? Do teachers employ strategies that encourage the transfer of academic skills from one language to the other?

Cultural Sensitivity

Lemberger (1990) supports the assumption that culture plays a big part in how teachers teach and how they can affect children in either a positive or negative way. Experiences in learning a second language and learning another culture will facilitate teachers interactions with their students' learning experience. Competent teachers understand that positive self-concept and positive identification with one's culture is the basis for academic success. They must possess the skills necessary to validate the culture of their students and help them develop a positive sense of self. Concerned educators have long observed with dismay the low achievement levels and high dropout rates of large number of minorities.

As far back as 1968, Cardenas and Cardenas hypothesized that these conditions were caused by the incompatibilities between the characteristics of minority children and the values of the schools. They documented five major student characteristics as potential problem areas: poverty, culture, language, mobility and perceptions. They observed that the culture and language of minority children was not valued by school or society. In addition, their observation was that school and society perceived minority students to be "culturally deprived." Lemberger (1990) observed that teachers' success with students was enhanced by their cultural connection with the community. Cultural expression and cultural sensitivity can be fostered through direct contact with the culture. Cultural sensitivity is a result of understanding the culture of the school/community population through directed cultural experience.

Techniques to Empower Students

Jim Cummins (1986) of Canada posited a theoretical framework for the empowerment of minority children. The central tenet of his framework is that "students from 'dominated' societal groups are 'empowered' or 'disabled' as a direct result of their interactions with educators in the schools" (p.21). Further, he theorized that the extent to which the culture and language of minority students is validated, respected, and incorporated into the curriculum has a mediating influence on student outcomes. He cites the considerable research evidence linking academic success to the degree of cultural/linguistic incorporation. Cummins characterizes the incorporation of minority students' language and culture "along an additive-subtractive' dimension":

> Educators who see their role as adding a second language and cultural affiliation to their students' repertoire are likely to empower students

> more than those who see their role as replacing or subtracting students' primary language and culture (p.25).

Teaching with confidence and competence requires that teachers believe in themselves and their ability to teach minority students who are linguistically/dialectically and culturally different. To do less is to disable them.

Lindholm (1990) lists criteria that are essential for successful dual language programs:

(1) *Duration of instructional treatment.* The instructional treatment is provided to the participating students for a period of at least four to six years. This is the amount of time required, on average, to reach second-language or bilingual proficiency, but not necessarily nativelike proficiency, as confirmed by a number of evaluation studies on immersion and bilingual programs (Cummins, 1981; Krashen & Biber, 1988; Swain, 1984; Troike, 1978).

(2) *Focus on academic curriculum.* The programs are designed to focus on subject matter as well as language development. Students are exposed to the same high-quality, academic core curriculum as students in regular programs. For native English speakers, academic achievement is attained primarily through second-language (L2) content instruction and interactions in the first language (L1) at home and in the community. Academic achievement is further bolstered by content taught through English. For language minority students, instruction in and through the native language forms the basis for initial academic advancement. Academic achievement and English language proficiency are further developed through English language arts and content instruction through English.

(3) *Optimal language input and output.* Optimal input has four characteristics: (a) It is adjusted to the comprehension level of the learner, (b) it is interesting and relevant, (c) there is sufficient quality, and (d) it is challenging. This is accomplished through communicatively sensitive language instruction and subject matter presentation. In the early stages of second-language acquisition, input is made more comprehensible through the use of slower, more expanded, simplified, and repetitive speech oriented to the "here and now" (Krashen, 1981; Long, 1980); highly contextualized language and gestures (Long, 1980); and communication structured so that is provides scaffolding for the negotiation of meaning by L2 students by constraining possible interpretations of sequence, role, and intent (Saville-Troike, 1987).

Balanced with the need to make the second language more comprehensible is the necessity for providing stimulating language input (Swain, 1987), particularly for the native speakers of each language. There are two reasons why students need stimulating language input. First, such input serves to facilitate continued development of language structures and skills. Second, when students are instructed in their first language, the content of their lessons becomes more comprehensible when they are then presented with similar content in the second language.

(4) *Separation of languages for instruction.* Studies of bilingual education programs indicate that monolingual lesson delivery (i.e., different periods of time devoted to instruction in and through each of the two languages, respectively is superior to designs that rely on language mixing during a single lesson or time frame (Baker & de Kanter, 1981; Dulay & Burt, 1978; Legaretta, 1979, 1981; Swain, 1983). This is not to say that language mixing itself is harmful; rather, it appears that sustained periods of monolingual instruction in each language require students to actively attend to the instruction and result in improved language development and subject matter attainment.

(5) *Ratio of English to the non-English language use.* Immersion education was designed to promote high levels of second-language proficiency while maintaining first-language proficiency. Although there are several program variations, many traditional full immersion programs utilize the non-English language for 100 percent of the instructional day and English is not used at all for at least the initial stages of the program. Other partial immersion programs involve equal amounts of English and the non-English instruction for both language minority and majority students.

(6) *Additive bilingual environment.* All students are provided the opportunity to acquire a second language at no cost to their home language and culture. This "enrichment bilingualism" results in high levels of proficiency in the two languages (Hernandez-Chavez, 1984; Skuttnabb-Kangas, 1981), adequate self-esteem, and improved crosscultural attitudes (Lambert, 1987). Conversely, subtractive bilingual contexts, in which the native language is replaced by a second language, seem to have negative effects on the school performance of many language minority students. Native language loss is often associated with lower levels of second-language attainment, scholastic underachievement, and psychosocial disorders (Lambert, 1984). Successful language development programs seem not only to prevent the negative consequences of subtractive bilingualism but also to effectively promote the beneficial aspects of additive bilingualism.

(7) *A positive school environment.* Research indicates that the success of bilingual education programs is dependent on the level of support the program receives from the school administration (Cortes, 1986; Troike, 1978). Drawing on this research, then, a successful bilingual immersion program should have the support of the principal and other administrators and non-bilingual immersion staff. This support is based on a knowledge of the program and is demonstrated through a desire for the program to succeed by an

expenditure of resources that is comparable to other education programs in the school, by devoting attention to promoting acceptance of the program among the community and other school staff, and by closely integrating the structure and function of the bilingual immersion program with the total school program (Troike, 1978).

(8) *Classroom composition.* Little research has been conducted to determine the best classroom composition for bilingual education programs. To maintain an environment of educational and linguistic equity in the classroom, and to promote interactions among native and non-native English speakers, the most desirable ratio is 50 percent English speakers to 50 percent non-native English speakers. However, the ratio of English speakers to non-native English speakers may exceed this ratio in the early grades to ensure that there are enough language models of each language to allow for attrition and the almost impossible replacement of native speakers of English.

(9) *Positive interdependence and reciprocal interactive instruction climate.* The promotion of positive and interdependent interactions between teachers and students, and between language minority and majority student peers, is an important instructional objective. When teachers use positive social and instructional interactions in equal amounts with both minority and majority students, both groups perform better academically (California State Department of Education, 1982; Kerman et al., 1980). In addition, teachers should adopt a reciprocal interaction model instead of adhering to the traditional transmission model of teaching (Cummins, 1986). The basic premise of the transmission model is that the teacher's task is to impart knowledge or skills to students who do not yet have these abilities. In the reciprocal interaction approach, teachers participate in genuine dialogue with pupils and facilitate rather than control student learning. This model encourages the development of higher-level cognitive skills rather than just factual recall (Cummins, 1986). Finally, language development is facilitated by extensive interactions among native and non-native speakers (Long & Porter, 1985).

(10) *High-quality instructional personnel.* Students receive their instruction from certified teachers. Over the course of the program, students are exposed to teachers who have native or nativelike ability in either or both of the languages in which they are instructing. Teachers, although bilingual, may assume monolingual roles when interacting with students. It is important that the teacher be able to understand the child's mother tongue in the initial stages of language learning. If the teacher does not understand the native language, then he or she cannot respond appropriately in the second language to the children's utterances in their native language. In this case, comprehensible input may be severely impaired (Swain, 1985). Further, teachers should be knowledgeable with regard to the curriculum level and how to teach it.

(11) *Home-school collaboration.* Another important feature is parental involvement and collaboration with the school. When parent-school partnerships are formed, parents often develop a sense of efficacy that communicates itself to children, with positive academic consequences, especially in the case of language minority children (Met, 1987; Tizard, Schofield, & Hewison, 1982). In fact, most parents of minority students have high aspirations for their children and want to be involved in promoting their academic success (Lindholm, 1988; Wong-Fillmore, 1983). Often parents of language minority children are able to fulfill this role more effectively through their native language (Dolson, 1985b) in interactions involving literacy and other academically related topics.

If these, then are the features of successful bilingual education programs and of effective schools, these features should form the basis for effective teacher training models. Good teacher training programs should incorporate developing the teacher's cognitive academic language proficiency, and cultural sensitivity along with the competencies necessary for implementing effective dual language programming.

The organization of the remainder of this paper will based on Cummin's Empowering Minority Students (1989). The premise is that the following sets of relationships or contexts can effectively impact students as well as disable them:

- cultural/linguistic incorporation,
- community participation,
- pedagogy, and
- assessment.

These relationships or contexts will form the focus for defining the competencies needed for teaching in multicultural and bilingual settings. Each of the relationships will be described in terms of the attitudes, knowledge, and skills as they relate to what every teacher should know and, what bilingual education teachers should know. The competencies should form the context for the training of teachers. In addition, teacher training programs should strive to develop the teachers' use of cognitive academic first and second language and incorporate a strong component to develop cultural sensitivity of the community addressed.

TEACHING COMPETENCIES

Cultural/Linguistic Incorporation

The extent to which the minority students' language and culture is incorporated into the school program will serve as either an empowerment or disabling factor. The integration of cultural and linguistic aspects into educational programming is based upon research which strongly indicates that this integration will impact academic success in a positive manner. The use of intensive first language instruction and cultural identification reinforcement develops a solid foundation for students and ensures school success (Lemberger, 1990; Lindholm, 1990; Cummins, 1989). The redefinition of teaching competencies and therefore, teacher training models to include minority students' language and culture in an empowerment role will have a more positive effect than just increasing second language proficiency (Cummins, 1990). Research indicates that positive cognitive benefits can result from acquiring a high level of proficiency in two or more languages.

Therefore, all teachers need to extend to students and parents, in powerful and varied ways, that the school system values language and cultural diversity. All teachers must have the following attitudes, knowledge, and skills in order to teach students in multicultural settings. Knowledge and skills that are necessary for training teachers to work with limited-English proficient students are identified by brackets at the end of each section.

Attitudes

- awareness of own cultural values;
- awareness and acceptance of cultural differences;
- a positive attitude toward cultural diversity;
- a positive attitude toward socioeconomic differences;
- a positive attitude toward linguistic differences;
- a positive attitude toward different cultural communities; and
- a positive attitude toward minority parents and community members.

Knowledge

- have a strong background in the social sciences, particularly cultural anthropology;
- have a background in linguistics;
- have a background in history with an understanding of different ethnic and national groups histories;
- understand the complexity of first and second language acquisition;
- understand the relationships between language and culture and speakers of those languages;
- understand the art of communications;
- have knowledge of the multidimensional and geographical cultural diversity of the United States;
- have field experience in school settings that reflect racial, cultural, and economic diversity;

- have knowledge of issues, such as participatory democracy, racism/sexism, values clarification;
- understand the history and culture of the major ethnic groups;
- have knowledge of human relations, including intergroup relations;
- have proficiency in English and target language;
- have knowledge of first and second language acquisition and language learning;
- have knowledge of linguistics to include both the psycholinguistic and sociolinguistic aspects;
- have knowledge of the ways in which L1 culture and L2 culture differ;
- have awareness of dialectic differences;
- have awareness of differences between L1/L2 ability to apply to teaching; and
- have knowledge of the difference between communicative competence and academic learning competence in the second language.

Skills

- ability to integrate cultural components into all aspects of the instructional program;
- ability to instruct in an oral language developmental mode;
- ability to utilize higher level thinking skills with all students;
- ability to understand and affect the influence of sociocultural variables on the learning and achievement of all students;
- ability to teach decision making and social action skills;
- ability to facilitate students', parents' and community members' involvement;
- ability to provide instruction to promote primary oral language and literacy development;
- ability to use major methodologies for primary language literacy instruction;
- ability to provide comprehensible second language input;
- ability to integrate the primary cultures throughout the curriculum;
- ability to use sociocultural variables to enhance the learning and achievement of LEP students;
- ability to adapt materials for use in bilingual education classrooms;
- ability to instruct students in English and target language in all subject matter;

- ability to incorporate sound management systems for students of varying levels of proficiency and academic experience; and
- ability to use social action skills and decision making activities in both languages.

Community Participation

The involvement of minority parents in a collaborative partnership with the school translates into positive academic results for their children. Parental involvement becomes even more important for parents of children who are linguistically and culturally different. Teachers have tended to view these parents as apathetic and as uncooperative (Bermudez, Padron, 1987). However, this lack of parental involvement among Hispanics, in particular, has been attributed by Blanco (1978) to the following: (a) work interference, (b) lack of confidence, (c) lack of English language skills, and (d) lack of understanding of the home-school partnership.

Bermudez and Padron (1987) state that the rationale for the development of a minority parental involvement component is based on several factors: (a) parents are very influential in their children's development, (b) many parents have not been successful in meeting their responsibilities due to the lack of knowledge about parenting and schooling, and (c) schools are not doing an adequate job in disseminating knowledge.

As parents develop a sense of self-identity and self-worth, they communicate these valid feelings to their children. Collaboration efforts result in students with increased interest in learning and better behavior. Teachers should, therefore, enhance experience for parents in the schools.

Attitudes

- believe that parents possess abilities to help their children in school;
- value as meaningful the experiences of all children;
- believe that home environments, no matter how poor, are sources of care and concern for children and that family concern can be translated into practical support for children and for schools;
- accept the significant force that all parents are in their children's education;
- accept that all parents have a combination of skills, insights, talents and concerns that are viable for the education process;

- accept that all parents can learn and can teach;
- accept that parents can directly impact children's education process;
- accept that parents' attitudes toward schools can improve; and
- accept that parents have a role in the school and in the classroom.

Knowledge

- awareness of parental involvement research;
- awareness of parent-school collaborative efforts;
- awareness of minority parents; sociocultural values;
- awareness of school resources;
- understanding of cultural child rearing practices;
- understanding of the differences between school and home;
- knowledge of specific parental training models;
- knowledge of differential parental approaches;
- knowledge of home language and culture.
- ability to relate with parents and community members;
- ability to conduct meaningful meetings with parents;
- ability to use parents as tutors;
- ability to develop activities that relate to the community;
- ability to develop programs that provide for various modes of parental and community participation;
- ability to develop programs that supplement and reinforce the development of academic skills with work in the home;
- ability to develop parent community relationships from prekindergarten to high school;
- ability to develop leadership qualities in parents;
- ability to train parents to use resources that they can manipulate;
- ability to develop specific home training activities;
- ability to use parents as teachers in the classroom;
- ability to speak the home language;
- ability to give the parents specific strategies and skills;
- ability to select or adapt materials that parents can use;
- ability to develop either home-based or school-based programs; and
- ability to develop home-school communications in the target language.

PEDAGOGY

Research on teaching has evolved from perceiving teacher effectiveness to be a consequence of certain personality traits to the current view that teacher effectiveness results from mastering a repertoire of competencies and knowing when to use these (Medley, 1979). Similarly, Hunter (1984) describes the "science of teaching", which is based on cause-effect relationships existing in three categories of decisions that all teachers deliberately make. These include: (1) content decision, (2) learner behavior decisions, and (3) teaching decisions.

The relationships existing among teacher behaviors, student behaviors and resulting student achievement have been sketched by Squires, Haitt and Segars (1984). Their description places great emphasis on : (1) the need for active student involvement in the lesson; (2) the importance of ascertaining students prior knowledge for setting the learning objective at the right level of difficulty; and (3) the role of a high student success rate in increasing academic achievement.

Medley (1977) distinguished between effective teaching behaviors for different groups of students. He found, for example, that effective teachers of disadvantaged pupils in the primary grades had the following characteristics: (1) provided more praise and positive motivation while spending less time on criticism, pupil rebukes or attending to deviant behavior; (2) spent more class time on teacher-directed, large group or whole class activity and less time on independent work; (3) asked more lower cognitive (factual) questions; and (4) monitored students when they were working independently.

In the area of bilingual education, several researchers have examined the question: What constitutes effective instruction for bilingual students? Two issues where educators and researchers agree involves the question of which language should be used to introduce initial reading and the question of when to transfer students into English reading. Educators and researchers agree that initial reading should be introduced in students' native language (Modiano, 1973; Rosier, 1977; Troike, 1978). Similarly, Goodman, Goodman, and Flores (1979) point out that literacy in the first language promotes learning to read in the second language. They recommend waiting for students' reading achievement in the first language to solidify prior to beginning the teaching of reading in the second language.

Tikunoff and Vasquez-Faria (1982) identified five instructional features which were significant to effective instruction for limited English proficient students: (1) active teaching, (2) using both the native language and the second language for instruction, (3) integrating English language development with academic skills, (4) using cultural referents, and (5) communicating a high sense of self-efficacy and high student expectations.

To develop students' language proficiency, teachers must plan carefully and deliberately structure the instructional environment. For speech to work as input for the language learner, it must have been adjusted and modified for the sake of the learners in ways much like a mother would do for their young children. Adjustments could include clearer enunciations, the use of concrete references, use of less complex structures, use of repetitions and rephrasing and the accompaniment of gestures and other cues to meaning. Furthermore, it is recommended that speakers use structures slightly above students; present level of linguistic competence such that students can use context to decode meaning (Krashen, 1980). It is similarly preferable to group students heterogeneously so students can have access to language models.

Morley (1987) developed a state-of-the-art synopsis about current directions for teaching English to speakers of other languages. She identified eleven features. These included a focus on active learning, the communicative use of language including the functions of language not just its form, extensive verbal interaction among learners and higher order thinking. Morley recommends increased sensitivities to second language learners and creative use of technology in the teaching of English to second language learners.

Karen Webb (1987) offers some guidelines for improving reading skills among dialect-dominant students. These strategies may also be modified for LEP students, whether or not the teacher is bilingual.

1. Become familiar with features of the students' dialect. This will allow the teacher to better understand students and to recognize a reading miscue (a noncomprehension feature) from a comprehension error.

2. Use visual aids to enhance comprehension. Visual images, whether pictures or words, will aid word recognition and comprehension.

3. Allow students to retell the story or passage in various speech styles.

4. Integrate reading, speaking, and writing skills whenever possible.

5. Use the microcomputer (if available) as a time-on-task exercise, which is extremely important to skills development.

For this paper, teaching skills identified in the research literature have been reviewed in terms of their applicability for minority and special students. These competencies are divided into three categories: attitudes, knowledge, and skills. Teaching skills are further subdivided into three areas: curriculum, methodology and classroom management.

Attitudes

To be successful, teachers assigned to provide instruction to special populations of students must at a minimum possess two basic beliefs about the teaching/learning situation: (1) they need to believe that such students are capable of learning, and (2) they must believe themselves to be capable of teaching students with special needs, i.e., they must have a high sense of self-efficacy.

Inexperienced teachers have been known to attribute a lower than average intelligence to students who may be limited English proficient, speak with a marked accent, or look and dress differently than they do. Researchers like Brophy and Goodman (1979) have shown a strong relationship between teachers' expectations, their actual behavior in classrooms and students' subsequent performance in class. The effective teacher:

- believes that all students can learn;
- believes that students can/will be influenced;
- views the role of the teacher as a facilitator of learning;
- has high expectations for student learning;
- respects/accepts the varied lifestyles of students and their families; and
- knows and is committed to the theory and philosophy of bilingual education.

Knowledge

Teachers assigned to instruct minority students must possess knowledge about learning styles, motivation and specific educational approaches. The effective teacher:

- is familiar with the content expected to be taught in the grade level assigned;
- is aware of school district procedures for requesting curriculum materials;
- understands the relationship among language, culture and cognition;
- has knowledge about human relations, including intergroup relations;
- understands the concepts of culture and cultural differences;
- is familiar with the concepts of equal educational opportunity, discrimination, racism, sexism;
- possesses basic information about differences in student learning styles;

- understands that students from various ethnic groups respond differently to teachers' efforts to apply motivational, disciplinary, and reward systems;
- possesses knowledge of the history/culture of the student population in their school and classroom;
- knows the rationales, philosophies, and objectives of bilingual education;
- knows major federal and state legal legislative mandates, guidelines and policies regarding bilingual education, sex equity and race desegregation;
- is proficient in speaking, reading and writing the English language and the students' native language;
- understands the process of language acquisition and methods of language teaching; and
- has information about language content, language varieties and code-switching.

SKILLS: CURRICULUM

Teachers working with minority students and students whose first language is not English can expect to encounter varying levels of achievement. To ensure success, teachers need to be able to provide assistance at the appropriate level of difficulty. Furthermore, they need to take this information into account as they make plans for content coverage and decisions about pacing lessons. The effective teacher:

- plans early in the year for the content to be covered during the school year;
- reviews and revises plans dependent on student progress;
- examines historical data on student achievement;
- conducts task analysis to ascertain prerequisite skills;
- acquires materials for promoting oral language interaction among students;
- adapts instructional material to include contributions from particular ethnic groups; and
- acquires curriculum materials that are linguistically relevant.

SKILLS: METHODOLOGY

Effective teachers practice certain behaviors. These behaviors help bring about a learning climate conducive to learning where students are actively engaged in their learning, smooth transitions occur between activities and little time is spent on misbehavior. The effective teacher:

- selects learning objectives at the right level of difficulty;
- communicates high expectations;
- secures and maintains students' attention during the lesson;
- implements active teaching where the teacher articulates learning goals, actively assesses student progress, and frequently makes class presentations and demonstrations for students on how to do assigned work (in subjects where this is an appropriate approach);
- uses cultural referents;
- provides clear presentations with examples;
- maintains students' active engagement in the lesson;
- monitors student success in the lesson;
- holds students accountable for their work;
- paces lesson for success;
- teaches vocabulary and concept development as well as provides "prior knowledge" assumed by authors of classroom texts;
- promotes extensive oral language development by posing questions in an open-ended manner and providing prompts that elicit elaboration;
- periodically schedules review of previously learned material;
- conducts controlled practice over new material prior to assigning independent work;
- checks for students' understanding of the assignment;
- asks questions which students can answer with high rates of success;
- provides adequate wait time for student responses;
- asks questions that require higher level thinking;
- is empathetic toward students' concerns or fears; considers students' feelings, emotions, and perceptions;
- praises students for actual achievement and work well done;
- provides positive, corrective feedback;
- probes, rephrases, or prompts students when they give incorrect responses to the question;
- creates a positive classroom climate;
- refrains from using sarcasm;
- uses the native language and English for instruction; and
- integrates English language development with academic skills.

SKILLS: CLASSROOM MANAGEMENT

Teachers planning to serve students with varied backgrounds and academic skills need to possess effective classroom management skills. They must determine the numbers of groups they will serve in any one school period

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and determine who will be a member in each of these. Further, teachers are expected to rotate groups and make smooth transitions. Because teachers may need additional time to cover the instructional material (due to a greater need for explaining vocabulary and/or for providing background knowledge), the effective use of time becomes an even greater concern than it does in other classrooms.

Similarly, the idea of holding students accountable for their work becomes part of a concerted effort needed to convey the idea to students that the teacher expects them to learn and to complete work assignments. The effective teacher:

- sets classroom rules and procedures and teaches them to students;
- consistently enforces classroom rules;
- holds students accountable for their work;
- considers the following factors in relation to lesson design: (a) attention span of students, (b) relation of lesson content to students' interests, (c) appropriate work standards, and (d) assurance of reasonably high level of student success;
- secures students' attention prior to beginning the lesson and maintains it throughout the lesson;
- makes smooth transitions between activities and time periods; and
- insures students have equal opportunities to respond and be active in the lesson.

Assessment

Too often, assessment has served to identify students as not fitting the role designated by the school. It has served in a "disabling" manner because of a deficit model approach where the focus is on finding the deficiencies in the student.

The role of assessment must also evaluate the social and educational environment of the student. Nondiscriminatory assessment coupled with improved teaching methods based on a determination of the inadequacies of the existing methods will result in a more functional role for the school system. System-wide changes can be the result of the re-examination of the testing approach.

Teachers of minority students must possess extensive knowledge in the area of assessment, ranging from knowledge of specific content to knowledge of when and how to seek additional knowledge. They must apply this knowledge in ways which are compatible with the needs and characteristics of minority children. With regard to assessment, teachers must view learning as the guiding principle and assessment as a tool.

Attitudes

Effective teachers must:

- believe that teaching and learning cannot be constrained by the current limitations of psychometry and assessment,
- believe that assessment is a way of enhancing the learning process; it is not an end in itself nor is it a way of punishing, labeling, or permanently grouping children.

Knowledge

Effective teachers must:

- be familiar with current legal mandates (federal, state, and local) regarding assessment;
- know that measurement, i.e., the application of a standard to a set of data, is an inexact science that precludes using any one measure or number to make decisions about students;
- know that assessment is a diagnostic and prescriptive process which includes measurement, teacher judgments, informal observations, priorities and context;
- understand the relationship between curriculum and tests, and the pitfalls of curriculum-test mismatch;
- know the appropriate use/role of particular tests and that appropriate interpretation must reflect the whole school context;
- be aware of the effect of test condition and environment on performance;
- be familiar with psychometric theory and the impact of test construction, item bias, norming groups, test interpretation,

language of the test etc., on the level of confidence with which tests can be used for diagnosis, identification and placement;

- must be aware of the major shift in both the education process and content of education that occurs in middle elementary grades when exiting students from special language in the primary grades; and
- understand the rationale for language assessment procedures and the criteria by which these procedures can be evaluated.

Skills

Effective teachers must:

- use formal and informal tests and observation to assess and enhance student learning and progress;
- interpret standardized test scores in the context of the psychometric properties of the instrument itself, the conditions of administration and the degree to which the instrument matches curricular content;
- be able to utilize evaluation in order to create system-wide changes;
- be able to identity or develop and use assessment procedures which are sensitive to and enhances students skills, both basic and higher order skills;
- be able to identify or develop and use assessment procedures which can tap the progress and outcomes of different learning modes, including cooperative learning;
- be able to teach test taking strategies in order to facilitate andreduce the anxiety of the testing situation; and
- be able to determine a student's readiness to function successfully in an all-English classroom at the next level of schooling.

SUMMARY

This paper describes the social, linguistic and cultural characteristics of the minority student in today's schools. It provides a basis for educational practices and outlines competencies needed by teachers in multicultural settings.

The redefinition of teacher competencies is based on the changing reality of the student population in our schools. The multicultural makeup of the schools requires that teachers possess the attitudes, knowledge, and skills necessary for addressing the needs of students in today's schools.

Schools and teachers must know that their role is to empower students through the education process. In order to accomplish this goal, the schools need to recognize who their students are and what is needed in order to enhance learning for all students. Teacher competencies then need to be redefined based upon the contexts of incorporating cultural and linguistic aspects into the schools, the importance of the role of community participation, the expansion of pedagogy for multicultural schooling and the role of assessment.

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DISCUSSANT COMMENTS

Presenter: Else V. Hamayan

Discussant: Ann C. Willig, Florida Atlantic University

I would like to open my remarks by expressing strong support for Dr. Hamayan's suggestion that we get rid of the descriptor Limited English Proficient, or LEP. With all of the research that points to the devastating effects of low expectations for students, there is no excuse for widespread use of a descriptor that focuses on students' limitations rather than potential. I heartily endorse Dr. Hamayan's use of the descriptor Potentially English Proficient (PEP). I also like to use English Learner (EL) as a descriptor since it clearly delineates to whom one refers. Whatever phrase is destined to replace LEP, I would like to call for a concerted effort on the part of all of us to contact legislators and to see that the descriptor Limited English Proficient in the Bilingual Education Act is changed.

My second comment simply underscores Dr. Hamayan's points concerning the need for training teachers and all who work with LEP students. Florida provides a good example of the importance of this topic — both for inservice and preservice training. Recently, a consent decree was signed by the state that will require school districts to provide to all EL's both ESL instruction and comprehensible content instruction, with the latter offered through sheltered English or home language. Instruction in these areas must be provided by qualified personnel, meaning teachers trained and/or certified in teaching English to Speakers of Other Languages. Additionally, all regular classroom teachers who teach any EL student in their classes must take at least three semester hours or eighteen inservice credits in methods of teaching EL students within this coming year. A result of the Decree is that in Dade County alone, approximately 18,000 regular classroom teachers must receive training this year! So Dr. Hamayan's topic is certainly one of crucial importance.

Dr. Hamayan has commented on staff development issues in terms of the context, content and process of staff development. I would like to comment on miscellaneous aspects of each of these.

Context of Staff Development

In terms of context, or who plays a role in planning the staff development program and who makes the decisions, I agree that all who will be involved in the program should also be involved in the planning. However, it must also be acknowledged that the degree of involvement of staff often follows a developmental course, depending upon the level of awareness and knowledge the staff have concerning relevant topics. The less we know about a topic, the less we are aware of what we need to know. Teachers who have no

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prior training or experience teaching EL students and have little awareness of the range of topics that address the needs of EL students will find it difficult to identify essential components for their own staff development. Those who have more experience and knowledge in the area will be able to participate to a greater degree in developing such plans. It is our experience at the Florida Atlantic University MRC that it is very difficult for many program staff and even program directors to articulate their exact needs for staff development.

An implication of this is that emphasis must be placed on the needs assessment component of a staff development program. A process is necessary that will help teachers to become aware of what they don't know. Not only should the needs assessment process survey those who will be involved in the staff development program with a list of possible topics and open-ended questions, but it may be that a series of pre-quizzes on topics that are considered essential to programs for EL students would heighten the awareness of teachers to those areas in which they are relatively uninformed. Many of us enjoy answering self-administered quizzes, crossword puzzles and the like that highlight to us what we do and don't know. If such quizzes were included in staff development needs assessments, teachers' awareness of needs might be heightened, and participation of all in planning the staff development might be fostered and accelerated.

Content of Staff Development

Turning to the content of staff development for mainstream or regular classroom teachers, Dr. Hamayan compiled essential areas in which teachers need training. There is an additional area I consider absolutely crucial for the training of classroom teachers — that is the area of cultural awareness. By cultural awareness I mean not only awareness of the cultural characteristics of the EL students in their classrooms but awareness of both one's own cultural characteristics and the cultural characteristics of classroom functioning in our society.

A key recommendation for working with EL students is that our classroom rules and procedures and our assumptions about what students know and need to know be stated explicitly. Yet it is extremely difficult to see ourselves as others see us and to ferret out our own assumptions and implicit rules. Most of these are so culturally ingrained that they are below our level of conscious awareness.

Just one example of a characteristic of classroom teachers in the predominant culture of our society is the use of implicit and indirect speech when communicating to students. "Johnny, you're spending a lot of time staring out the window," might actually mean, "Johnny, get busy and do your math!" Or, when giving a child instructions, "You might want to do your homework now" (implying choice) when you really mean, "Do your homework now!" There are many more areas of behavior and thought for which teachers hold implicit assumptions and display cultural characteristics that are incomprehensible to a student who does not know the culture or the language of the teacher. Teachers need training in how to recognize their own cultural behaviors and culturally based speech and thought patterns in the classroom so they can truly make these explicit for their students. Techniques for analyzing the cultural characteristics of their own classroom behavior and interactions must be taught to teachers. These techniques could very easily employ a number of other successful staff development techniques discussed in Dr. Hamayan's paper, such as peer visitation and sharing sessions, perhaps coupled with self-taping (audio or video) and subsequent analysis with a peer.

Only when a teacher can recognize his or her own culturally based behaviors, speech and thought patterns, is he or she able to become sensitized to areas in which student characteristics may also be culturally based. Such sensitization can lead to a true understanding of the hurdles that must be overcome by the EL student and enable the teacher to become what Dr. Hamayan calls for — a true advocate for the EL child.

A second content area considered important by Dr. Hamayan is the distinction between BICS and CALP, as originally posited by Jim Cummins. Although this concept is useful in highlighting the difference between the language of ordinary interpersonal communication and that used for academic instruction and learning, I have always had a problem defining exactly what CALP is. Cummins himself moved from defining these as discrete entities to two separate and intersecting continua. One continuum indicates that the amount of context for language can vary by degree, ranging from high context to low context, and the other continuum does the same for cognitive demand. When these continua are placed so they intersect at right angles, four quadrants are defined — language characterized by high context and low cognitive demand, low context and low cognitive demand, high context and high cognitive demand, and low context and high cognitive demand.

For the purposes of research, such as when one wants to analyze classroom interactions, assessments, or instructional language, the idea of intersecting continua is very useful. One can plot any given interaction on a single point that indicates degree on both dimensions. Such points conceivably could be entered into analyses of all sorts that would be valuable to researchers.

I believe these continua are important for teachers to be aware of, and any discussion of BICS and CALP should present this elaboration. However, I believe a straightforward and simpler presentation of the nature of the continua would be more useful to the classroom teacher. Basically, teachers need to be aware that in using language with EL students, they need to consider the dimensions of both context and cognitive demand, or how hard one has to think in order to understand. These may be presented as two separate and parallel continua that teachers need to consider and adjust whenever they plan lessons or interactions with EL students. The adjustment of one of the dimensions, such as context, will affect the degree of adjustment necessary in the other. For example, if a lesson or language interaction will concern a difficult topic, more contextual clues will have to be provided. Also it is important for teachers to note that the necessary adjustments on each of the continua will depend upon the individual EL student. What is a hard topic for one student may be an easy topic for another. This is where the teacher's knowledge of the student and the student's abilities and level of functioning are important. A teacher cannot adjust these continua appropriately if the teacher is not familiar with the student's functional ability in both the language and the content.

A final point concerning the presentation of the continua associated with BICS and CALP is that the continua can be used for both written and oral language. The only difference is that the nature of the context in which language is embedded will differ according to the language modality. Hence, any part of a learning activity or lesson can be thought of in terms of these continua. Training discussions of BICS and CALP that do not define the two continua and their potential use may simply leave a teacher confused.

Subtractive Bilingualism

Dr. Hamayan discussed the importance of the concept of subtractive bilingualism and some of its detrimental effects. I would like to underline that discussion with an example of how subtractive bilingualism can be fostered and then used to condemn the very children who are its victims. A few years ago a noted psychologist wrote a paper about Hispanic children on the U.S. mainland. This author argued that Hispanic children on the U.S. mainland are linguistically and intellectually inferior and that this inferiority contributes substantially to the academic problems of Hispanic children in this country. Evidence for the argument of linguistic inferiority rested on the fact that Spanish test scores were lower for Hispanic children on the mainland than for children in Puerto Rico and Spain. The writer argued that linguistic inferiority was inherent in the mainland children even though he noted that differences between the groups became apparent only after the age of about five years. He ignored the fact that this is the age children on the U.S. mainland start school and are immersed in English, usually with little or no support in the native language. Without native language support, loss of the native language, or subtractive bilingualism, occurs. Circular reasoning then condemns the children for their native language loss with the contention that the children's linguistic inferiority is a major cause of their academic problems. Circular arguments such as this, especially when given credibility by noted authors, promote low expectations for these children. As extensive research has shown, low expectations on the part of teachers and parents contribute heavily to lower academic performance.

Presenter: Else V. Hamanayan

Discussant: Rosa Castro Feinberg, University of Miami

As part of my reaction to Elsie Hamayan's paper, I will

1. speculate about what the future might hold for us, using the Florida LULAC Consent Decree as an example of the form that future might take;

2. make recommendations for OBEMLA's consideration; and

3. get back to the issue of nomenclature: LEPs, or PEPs, or PREPs or whatever. I'm going to use the term "PLUS," and I will explain why in my concluding remarks.

REACTION

The paper that we are considering is a most useful and comprehensive response to the information needs of mainstream teachers who have PLUS students in their classrooms, given the current reality. If there is scope for any additions to or expansions of the paper, I offer the following suggestions.

1. A summary of the many factors to be considered when making the decision to mainstream a student should be included in the paper, along the lines followed by George de George in the NCBE New Focus issue that came out last winter. He points out several areas to review in making such an exit decision, including analysis of the subject areas to be taught, analysis of each subject area by content and skill area for each grade, determination of prerequisite cognitive and study skills needed to allow students to benefit from instruction in each subject, analysis of linguistic components (vocabulary and technical terms, language structures and functions, discourse features), and analysis of cultural components. In short, de George reminds us to ask the following questions about the tasks in the mainstream curriculum the PLUS student will be expected to complete successfully:

1. What's the cognitive load?
2. What's the language load?
3. What's the cultural load?
4. What's the subject matter load?

The answers to these questions, coupled with assessment of the student's status on these same factors and of the faculty's training and success rate with PLUS students, provide information needed for a rational basis for mainstreaming decisions. Of paramount importance to the decision-making process for predicting success in academic areas is the assessment of reading skills as measured by standardized tests of English language reading used by the general population, such as the SAT, the CTBS, and the CAT.

Although this type of analysis should no doubt be included as part of the agenda in every school before every mainstreaming or exit decision, it is often considered not possible to do so. It may be possible, however, as a kind of national materials development project, to pool resources to do in a global sense at least part of the job. Such a national project might determine, for example, typical content of fourth grade social studies classes in terms of the factors outlined above, thereby providing information to be used at the school level to accelerate the process of task analysis prior to reaching mainstreaming decisions.

A second set of factors to consider is related to the previous schooling experience of the PLUS student. How should mainstreaming decisions differ for a child who has had limited schooling in his home country or for a child who is not literate in his home language? How appropriate will the mainstream teacher's expectations and assumptions be for the PLUS student for whom a literacy or schooling gap exists? Or for the PLUS students whose schooling experience and academic achievements in the home country go far beyond those of English language origin age peers? The influence of these factors on the PLUS student's probability of success in the mainstream class should be estimated in ways that affect the shape, form, or timing of a mainstreaming decision.

2. My second suggestion is to add a section on vocational education with particular emphasis on safety and employability issues. According to Jeanne Lopez-Valadez in "Training Limited English Proficient Students for the Workplace: Trends in Vocational Education," published in NCBE's Summer, 1989 New Focus, twenty million students between the ages of sixteen and twenty-four are not planning to go to college. We know that the holding power of vocational programs is second only to that of college preparatory programs; therefore, vocational education teachers constitute an important audience for this paper. Their assistance

is needed to expand the participation rates of underrepresented PLUS students in vocational education programs and to prepare students both linguisticly and vocationally for job fields in which bilingualism is an asset.

3. Hamayan has done an excellent job of addressing the question that has been asked: "What do you do as a mainstream teacher, if all of a sudden you find yourself with PLUS children in your classroom?" I think there are other questions to be asked, however, that focus on the manner is which mainstreaming decisions are actually reached. Most PLUS students are mainstreamed because there's nothing else for them but the same classes that are available to all other children. Children who are in part-time programs specially designed to meet their needs are enrolled in mainstream classes, which may or may not be appropriate for them, the rest of the school day. The question that comes to mind is "Exit from what?"

In other words, what percent of the school day should be provided in understandable fashion to students who are not proficient in the English Language? Let me ask that question again. What percent of the school day should the PLUS student be able to understand what's going on in the content classroom?

In Florida, we were calling the period of time that the PLUS student spends in classrooms where he doesn't have the vaguest notion what's going on "dead time." That really negative term of "dead time" captures the essence of the feeling we have about it, that I know you share and that I hope we can communicate to our colleagues in the mainstream program. We don't want any dead time for our PLUS students.

Given this set of circumstances, recently and amply documented by the Council of Great City Schools Resource Center on Educational Equity in School Success for Limited English Proficient Students (February 1990), the issue is not what the mainstream teacher should do with these children, but what the mainstream teacher can do to join forces with us in advocating for proper information-based mainstreaming decisions.

In other words, my most important suggestion for revision of this paper is that it, or sections within it, be clearly labeled as a compilation of stopgap measures which can be used in those instances when PLUS children are inappropriately placed in mainstream classrooms. Mainstream teachers, many of whom have had no opportunity to become informed about the educational needs of PLUS students, should be provided with guidance which clearly distinguishes among ideal mainstream placements and the more frequently occurring inappropriate placements. I think we need to give mainstream teachers three sets of information, appropriately labeled, in categories such as the following:

1. This is what is, here's how we can help you cope, but we should try to change it.
2. This is a better way to do what we're trying to do.
3. This would be the ideal situation.

The second aspect of ideal versus current reality has to do with how long PLUS students are monitored while transitioning to mainstream classes and under what conditions of support. Descriptions of monitoring procedures and of support programs, and a discussion of the difference between mainstream classes as content classes, where content learning is the main goal, and ESOL/Content classes, where English language acquisition is the main goal, would be useful expansions of the Hamayan paper.

THE FUTURE

The LULAC v. Florida Board of Education Consent Decree offers an example of what the future might bring to all fifty states. Take heart. It took only twenty years or so to get to this point in Florida, starting from the pioneering work organized by Dr. Antonio Jorge as Chairman of the United Way's Spanish Speaking Committees in 1972 as he sought to gain passage of a state Bilingual Education Act. More recently, in the summer of 1989, attorneys Peter Roos and Camilo Perez from the Multicultural Education Training and Advocacy (META) Project, and Stefan Rosenzweig of Dade-Monroe Legal Services, on behalf of their clients such as the League of United Latin American Citizens (LULAC) of Florida, ASPIRA of Florida, the Farm Workers' Association of Central Florida, the Florida State Conference of NAACP Branches, the Haitian Refugee Center, the Spanish American League Against Discrimination (SALAD), American Hispanic Educators' Association of Dade (AHEAD), and the Haitian Educators' Association, advised the State Education Agency of their intention to sue under the provisions of the Equal Education Opportunities Act of 1974 because of the state's failure to establish statewide standards and guidelines for the provision of services to NOM students. Commissioner of Education Betty Castor led the way to a decision to negotiate in lieu of litigation.

Lee Roberts, Acting Director, Division of Public Schools, Clenteria Knight, Special Programs Subsection Supervisor, General Counsel Syd

McKenzie III, and other State Education Agency representatives and Meta Project and Dade-Monroe County Legal Services attorneys, with a University of Miami DAC/Lau Center representative sitting in as an independent third party advisor, began the process of drafting an agreement which would form the substance of a proposed consent decree, to be filed simultaneously with the complaint. At the same time, State Senator Lincoln Diaz-Balart and his brother, State Representative Mario Diaz-Balart, introduced companion bills in the Florida Legislature to amend the ESOL funding legislation originally introduced by then Representative Arnhilda Gonzalez Quevedo by extending the three-year limit on state funding for students in ESOL programs to a possible maximum of six years, and to give the State Education Agency authority to issue rules and regulations governing the use of these funds. The provisions of the agreement reached on June 8, 1990 by the State Agency and META Project representatives were entered as a consent order by Judge James Lawrence King of the United States District Court for the Southern District of Florida and also set forth as Emergency Rules by the State Board of Education on August 14, 1990.

The agreement, which is based on existing federal law, can be expected to become a model for subsequent action in other states. The requirements of the consent decree will be summarized in NABE and TESOL newsletters and in NCBE's FORUM in the next few months.

Provisions of the decree related to mainstreaming issues include:

1. Exit or mainstream decisions will be based on results of multiple measures which include standardized tests of English language reading ability such as those administered to the general population, with the 32nd percentile as the cut-off score on the reading test. The information from the various measures provides an objective reference point for the school LEP committee (and the participating parents) to determine that a given student is or is not ready to compete academically with his English language origin peers.

2. Staff training standards have been established which, after a planning and phase-in period, require each and every teacher of students who are not proficient in English to be specifically trained for that task.

All teachers of English to Speakers of Other Languages (ESOL) will have a fifteen semester hour add-on endorsement or stand alone certification in ESOL, or will have been "grandfathered in" on the basis of the district superintendent's certification of two years of successful experience teaching ESOL.

Understandable instruction will be provided to PLUS students. Every teacher of the specified basic subject areas of math, social studies, science, and computer literacy will have a minimum of sixty inservice training points or three semester hours of training in methods of teaching students of limited English proficiency either through ESL methodology or through home language instruction. Teachers of PLUS students in all other subjects will have the equivalent of three full inservice training days, eighteen inservice points, or three semester hours of training on methods and materials and on cross cultural communication.

3. Students exited to mainstream classes will be monitored for two years to be sure that the correct placement decision was made. Teachers or parents may request review of such decisions by the school LEP committee at any time.

I predict that the concepts outlined above will soon become policy in all states with large numbers of PLUS students. In the future, plans for training mainstream teachers, therefore, will increasingly focus on preservice training. School districts will expect teacher training institutions to prepare their graduates at all levels and content areas with the appropriate home or second language methodology and with a basis for multicultural education and will prefer to employ the graduates of those institutions which meet their expectations. The alternative would be for districts to continue cheerfully to foot the bill for massive retraining of inservice teachers. In my opinion, such a sanguine response to a continuing drain on scarce resources is a highly unlikely prospect.

RECOMMENDATIONS

The following recommendations are offered for consideration by policy makers at OBEMLA.

1. Help is needed to develop content area materials that are useful for students who are learning English and to develop computer assisted instructional material which incorporates a language shift feature so it can be used whether understandable instruction is being provided through ESL methodology or whether it's being provided through the home language. Commercial publishers are reluctant to develop such materials for the smaller language groups because of the cost involved. For that reason, and because this kind of a project has national implications, it might be worthy of consideration for funding on a national basis.

2. Federal support is also needed to fund content analysis of the requirements of mainstream classes. Textbooks influence curricu-

lum. Relatively few textbook series are in wide use throughout the country in each of the subject areas. Fourth grade social studies in Dade County is not going to be all that different from fourth grade social studies in Albany, so somebody centrally located might very well undertake the task of defining the content load, listing it out, and sending it out to all the rest of us.

3. Short term support is needed to provide intensive staff training services for mainstream teachers and for the paraprofessionals who will assist those teachers. Such funding is certainly needed in Florida, whose resources are stretched to the maximum in the effort to comply with the massive training requirements of the LULAC Consent Decree despite shrinking state and local revenues for that education.

There should also be consideration given to federal funding for foreign language training for monolingual mainstream or ESOL teachers, who need to communicate with the parents of PLUS students, and for bilingual teachers and professors, for the improvement of native language skills. Such opportunities would permit teacher trainers and teachers to be more effective in using the power of the home language to provide instruction to PLUS students and in securing the cooperation of parents.

4. Unique situations call for unique responses. Florida, and any other area operating under a court order, has special needs for short term federal assistance in training trainers for inservice staff development programs, in creating university level preservice materials for infusion into existing content area methods courses, and in developing multi-media materials and courses for educational personnel and for parents for economical delivery via satellite transmission. Provisions for these purposes should be incorporated into the next Bilingual Education Act reauthorization process.

5. In conclusion, I want to address the recurring question of nomenclature: what to call the children we serve. I recommend a national contest for every Title VII funded student in any grade level from Pre-K to Ph.D. to find the best term to use in the upcoming reauthorization of the Bilingual Education Act, the results to be judged by a joint NABE/TESOL/OBEMLA/NAAPAE/NAFEO/NIBEC/ACTFL committee and announced at the Management Training session at the next NABE Conference. I have already given you my entry, Polylingual Leaders for the United States (PLUS Students).

The contest rules should incorporate the following criteria:

The term should convey the positive aspects of multilingualism, identify levels of proficiency in each language, permit English language origin students to be similarly labeled upon qualification, identify the student as a resource in language and social studies for others in the school, touch on patriotic or "all-American" themes, establish bilingualism as a goal, be useful to those who are not language specialists, and be "cute" enough to gain widespread use, but not so cute that it elicits ridicule.

The term should not be amenable to alteration by mean little kids in a way that results in a negative label in any language. "PLUS," for example, could be disqualified because it can be easily altered to "PUS."

EXAMPLE:

(PLUS: Polylingual Leaders for the United States).

PLUS-1 oral proficiency in a language other than English

PLUS-2 oral proficiency and literacy in a language other than English

PLUS-3 oral proficiency, literacy and schooling in language other than English

PLUS-4X oral proficiency in x languages other than English

PLUS-5x literacy in x languages other than English

PLUS-6x schooling in x languages other than English

PLUS xy/z years of study of English or of other modern language initiated

PLUS xa-y/z command of additional dialects

PLUS 3-0/2, for example, refers to a student who is literate and schooled in a language other than English, has no third language, and has studied English two years.

PLUS 0-0/1 refers to an English language origin student who is in the first year of study of a language other than English.

PLUS 1a-0/1 refers to a student who has oral proficiency in a language other than English and in a dialect of that language and is in the first year of study of English.

The point, whether you go with "PLUS" or whether you go with "PEP" or "SOL" or something else, is that we are ready now to insist that our children be treated respectfully and referred to in positive terms. Almost every speaker today has talked about advocacy and image and about the importance of helping the student to develop a positive self-concept. It's time to abandon terms which focus on limitations rather than on strengths.

Presenter: Erling E. Boe

Discussant: Reynaldo Macias, University of Southern California

Good morning; Buenos dias! I'm happy to be back in Washington and particularly to with this topic today, not because we've dealt with it before and it keeps coming up, but because I think teachers, their training, their availability, their assignments, their working conditions and their retention are becoming increasingly important not only for bilingual education but also for education in general. Although we are dealing with a lot of numbers here, what is behind the numbers, the actual people and what they do, ought to be kept in mind, and I certainly trust and hope that not only will all these papers be compiled, but that someone will take on the touchy and difficult task of relating the different topics together, so that a dynamic as well as applicable knowledge base can come from all these presentations. I'd also like to say, "Hello" and thanks to Michael O'Malley and Dorothy Wagner for some of the comments and some of the information that I have used in this presentation. They have worked in this vineyard of research for a number of years - Dorothy when she was at the National Center for Education Statistics in the 1970s and Michael when he was at the National Institute for Education in the late 70s and early 80s. Partly as a result of their work, we are dealing with a number of these issues in a very consistent way and also in a very dynamic way, and I'll mention some of their work as I go along.

I would like to do a couple of things. One, talk a little bit about the model that authors Boe, McMillen and Bobbitt have presented to us. Second, present a few comments and questions regarding the database of the School and Staffing Survey (SASS) and its adequacy for looking at bilingual teacher supply and demand issues. Then a few comments on both the need and the adequacy of the data bases we have to look at bilingual education teacher supply and demand issues.

There are two principal definitions that are critical for doing any kind of bilingual teacher demand and supply study, and Professor Boe mentioned them. The first is a definition of the students that are in need of particular teachers, in this case, limited English proficient (LEP) students. Since there has been a call to drop this label because it is stigmatizing, let me caution that there are some good aspects of that technical term and definition that go back to the inclusion of, for example, reading and writing in the definitions of the 1978 Bilingual Education Act. Prior to 1978, the definition only called for speaking and understanding English. I think before we move quickly to substitute labels that we should try and recall the history of the label in its positive aspects as it reflected the improvement of bilingual education so that we don't throw out the baby with the bath water. The definition of LEP students is critical, and it is especially critical for the "prevalence model" (basically a population or enrollment parity approach) that Professor Boe mentioned is dominant in the field of supply and demand studies.

The second definition is the one for bilingual teachers and ESL teachers, especially as used for the "market model" (basically an identification of the number of positions or full-time-equivalents (FTE) designated for bilingual teachers), although it is implied for the prevalence model as well. I get to some of the information needs for these models and definitions below.

With regard to model building, we have several elements of models that must be included and addressed: demand, supply, and then shortage. I would like to talk very quickly about these characteristics and how they relate to each of the two models presented by Professor Boe and his colleagues and some of the tweaking or refinements that might be made in order to improve them for our purposes.

Demand

The prevalence model depends, as I said, on the definition of LEP students. It's the dominant approach of today and has to be applied in concert with several other decision points that vary in the model. One of the critical decisions is the ratio of the teacher to student that is used to establish the "need." There are several ratios that are currently being used for bilingual teacher supply and demand studies, ranging from one teacher per twenty students to one per thirty-five. The concern, of course, is not only how you identify the students but how they are grouped, and, within a school or district, whether or not their distribution in classes meet anti-segregation rules that may not allow for a grouping of more than a certain percent in a classroom. Most other teacher-student ratios for subject matter are generally used with the assumption of an entire class-defined ratio as opposed to identifying a number of students within a grade or two grades or within a school, still less target languages. The distribution and grouping of LEP students have to be taken into account in the refinement of these models as they apply to bilingual education.

The market model is not as useful for bilingual teacher supply and demand studies as the prevalence model for a couple of reasons. One, I think it assumes the stability of the classification/ assignment of the teacher by the district and, in some respects, by the state. If you review the politics of credentialing, certification, and training at the state and district levels, and then the assignment of bilingual teachers or bilingually skilled teachers at the district level, you will probably note that there is and has been a lot of resistance and misassignment of bilingual teachers or teachers who have bilingual skills. To the extent that the market model depends on school-district data of identified positions that are designated as bilingual, it rests on a rocky foundation of trust and goodwill on the part of school districts to identify those positions in relation to how they identify their need. Many school districts minimally redefine the LEP populations well as the bilingual teacher who is able to provide adequate services to them in order to reduce the need for these teachers and the shortages that are thus identified. Additionally, it seems the market model assumes a free market flexibility in demand that is not accurate for bureaucratic organizations like local school districts. The recent publication from OBEMLA, "Staffing the Multi-lingually Impacted School of the 1990's," reporting on the forum they sponsored in February 1990, on personnel needs, indicated that Dade County (FL) identified a need for a couple of thousand bilingual teachers, but all of their positions were filled, and, consequently, they could not designate any of those existing and filled positions as bilingual nor did they have vacancies to create new ones. There is also the alternative situation that there may be positions that are identified by the school district as bilingual and that the school district attempts to fill but cannot fill and, therefore, converts them to nonbilingual positions. The market model doesn't seem to include the Dade County problem nor this alternative situation. If it does, then there needs to be a greater development of the model within the presentation.

The other concern regarding the presentation of the market model was the mix of different kinds of data. There was not a whole lot of detail available to you here in the presentation, but let me quickly identify some of them. The mixing in the market model of the use of, for example, the 1983-1984 data which were presented in Table 3 was primarily district data on positions and the credentials of the teachers filling those positions. When used with other data that involve the identification of teachers who use a nonEnglish language in their instruction within a school district, there may be a confusion as to types of data for the market model. That is, even when we don't have bilingually designated positions, we may have identified bilingual (skilled not credential) teachers. Reporting district data or teacher data, depending upon the source that is used for this model, may result in a confusion of two different kinds of teachers especially if the district has no appropriate or consistent definitions or standards for the "bilingual teacher."

Supply

Three sources of supply were identified: new teachers (including teacher education graduates, re-contracts after being out of the teaching program for a while, and alternative credentialed program teachers), continuing teachers, and what were called transfers. The area of concern in refining the model is to reconceptualize transfer in a couple of different ways. Transfer involves the redistribution of existing bodies and teachers, if you will, by assignment and by field both in and out of the field of interest. A variation of this process that is very relevant to public policy relevant and that has been pursued by a number of states and school districts for bilingual education can be called conversion. From the beginning of court mandated bilingual education (early 1970s), courts took advantage of having teachers already in the classroom to say "You can train these teachers to become adequate and competent bilingual teachers." This strategy of conversion of already credentialed teachers to become specialists in an area that we call "bilingual ESL," I think, is somewhat distinct from what is identified as transfer of field, which sounds more like transfer of assignment rather than any additional training or any particular strategy of staff development. There has been quite a bit of controversy over the adequacy of staff development programs. In so far as it's a prevalent strategy within the public policy field, I think that it ought to be distinguished within the model for the purposes of this study.

A second point of reconceptualization or of particular concern with bilingual teachers is to realign the credentialed bilingual teachers with bilingual teaching assignments. For a variety of working condition reasons, bilingually credentialed teachers opt out of bilingual assignments. This retention in assignment should be looked at more closely.

Shortage

On shortage...Well, here I would like a little bit more specificity. I realize that I read the first draft of the paper and not the second, so I'm really going to be making some comments that may have already been addressed. Let me say that I like the two data sets used by Professor Boe and his colleagues partly because it allows them to distinguish between unqualified and qualified teachers, since this is an area that at the local and state levels has been especially critical in the politics of credentialing as well as in understanding the assignment of teachers. It also allows for the identification of vacancies and bilingual FTEs converted to other fields because they could not be filled. On the other hand, when we go through the data that we have, when we compare the supply that we have with the need that we have identified, using either the prevalence or the market model, what do we end up with? Well, if I understood the paper correctly, there was a national need in both the market and the prevalence models for roughly about 60,000 teachers. The identified shortage was close to 8,000. If that ends up being the case upon closer view and analysis, then we are very short of some of the estimates of need made by school district superintendents and SEA officials in the February 1990, forum on personnel needs and what we see in the literature and in the newspapers, which report the identified need for these individuals in school districts as much greater than 8,000.

We have a couple of things to reconcile. One of the ways to reconcile them is to assume that the distribution of qualified bilingual teachers and ESL teachers across the country is very, very disproportionate to the distributions of the need. If supply is just misaligned with the need, then one of the principal public policy strategies ought to be to pay people's moving expenses, give them airfare and other kinds of resources to move around, in order to align the personnel supply in the country with the locations of districts where there is the need. If it isn't misalignment, then it seems to me that the 8,000 may very well be an extreme underestimate, when we take into account a number of other things. I will get to some of those below. In general, these are some of the implications for further development that come out of the paper as it stands.

On the Schools and Staffing Survey (SASS)

With regard to the adequacy of the Schools and Staffing Survey, there wasn't a whole lot of detailed information on the data set itself. I looked at a couple of the papers that were presented at the 1990 American Educational Research Association (AERA) Meetings on similar topics, and I couldn't get much out of the technical reviews there, either. If I understand what I read correctly, then the definition of "bilingual teacher" in the SASS and in the supplement funded by OBEMLA was based on the use of the nonEnglish language in based on teaching, and for the ESL teacher it was teaching ESL in the school. If that's the definition of "bilingual teacher" in the SASS, then, given some of the other considerations of certification, adequacy, assignment and so on, it may not be as useful a data set as we need to identify bilingual teacher supply and demand. It would certainly not be useful for a market model study.

The second aspect that concerns me about the SASS is related to the distribution of bilingual teachers in different regions of the country. The paper indicated that because of the selection of the bilingual teachers for the sample, which apparently was not stratified by bilingual teachers but was an opportunity sample in the schools that were identified for the survey, then there were not either the weights or adjustments to get a good regional distribution of the bilingual teachers. That is, you could not break them out of the national sample by region because of the way they were selected for the sample. If that is the case, then I think we probably need a little bit more explication of why that's the case and what the weights are for the bilingual teachers. I see someone shaking her head. It may be a matter of greater clarification of the paper, and if that is the case, the adequacy of the bilingual teacher sample for these supply and demand studies may be assured.

OTHER DATA SETS AND ISSUES IN ESTIMATING BILINGUAL TEACHER SUPPLY AND DEMAND

A related concern here is an institutional memory in OBEMLA, NCES and the Education Department that has forgotten the period of 1975 to 1981, particularly the efforts to identify and estimate the LEP population and the language minority population in the country, and the two teacher language skills surveys that were done in the late 1970s and the early 1980s. Both of these teacher language skills surveys are precursors of a number of papers here and certainly ought to be tied in for a comparison of rates of growth, productivity, and our capacity to produce enough bilingual teachers to meet the need (however it is estimated).

In order to strengthen the paper I suggest the authors take advantage of the literature that identifies what many in the field would consider minimal criteria for what a bilingual teacher is and how the criteria relates to credentialing and certification. I think some discussion of the minimal criteria in an affirmative, as opposed to a list, sense would be very important. Certainly, the nonEnglish language competencies of the teacher for this definition would be important. So would knowledge of the instructional methodologies in bilingual education, English as a second language and foreign language instruction. Multicultural competencies, both information on different groups (ethnic studies) and instructional strategies that take into account human diversity are a third minimal criterion for the definition. Even if one were to use the Teacher Language Skills Survey definitions of minimal preparation and basic preparation, there would at least be another way of dealing with qualified versus unqualified bilingual teachers in terms other than certification and assignment. Even a discussion that there are different ways of identifying those competencies would be useful.

A study that I did a couple of years ago bilingual on teacher supply and demand is referenced in the paper. One of the concerns that I had in that study, which was funded by the Exxon Education Foundation, was that, in the absence of a lot of good data on both LEP students and bilingual teacher assignments, characteristics, and certification, it would be better to identify a range(a low range and a high range) for the different teacher to student ratios. We estimated a need for 70,000 bilingual teachers on the low end and 122,000 bilingual teachers on the high end in 1985; 80,000 to 140,000 in 1990; and 12,000 to 161,000 in 1995. The estimates for bilingual teacher demand are much lower than that. Part of the discrepancy hinges not only on the teacher/student ratio that is used but more particularly on the definition of LEP student. Comments in the Boe, et al., paper and a number of the other papers, and especially some of the comments that the Director of OBEMLA made earlier today, indicated that we have varying estimates of the LEP population. That is just incorrect. There are different estimates for the target population in need of federal bilingual education services because there are different definitions being used for the LEP populations. If you hold the LEP definition constant, the national estimates do not vary that much. Estimates proposed and argued differ on several grounds, i.e., whether you have an in-school population or a total population as the base. The language minority population was for a number of years a little over five million while the LEP was one million, depending upon the age range being reported. The low end of one million was not ever identified explicitly as LEP in any of the literature that I've read or discussions that I've had. It came from a study by Milner and Gombert in 1981 that took Office of Civil Rights data (which were school-district reported data) defining the target population on the basis of primary language and not on LEP status and estimating it at 933,828. In 1981 (and subsequently), Barnes using a number of different data sets, came up with an estimated 1,388,000 for the target population, but he identified it as limited English proficient, primary language superior or comparably limited, not LEP. The definition of LEP, as far as I can tell from the data we have, has been fairly consistent in the different students, but the definition of the target population being estimated has varied. You can identify the out of school population. You can identify the language background from the LEP status, and that has been fairly consistent on the national level. So if we are going to use a LEP base, it ought to be at least reasonably identified within those characteristics and the other labels that we have, so that we are clear about the population that we're talking about and that we are relating to teacher supply and demand need.

With that, let me say, again, that I enjoyed reading the paper. I think it is going to make a contribution, both in its discussion of model building and in the information it presents from SASS and other data sets. I'm very hopeful that the Schools and Staffing Survey will be as profitable for this area as Professor Boe and his coauthors think, and I'm looking for some greater discussion. Thank you.

Presenter: Erling E. Boe

Discussant: Hector Montenegro, Hammond Junior High School

One of the things that is often difficult when you have a presentation to make to an audience is to compete with lunch. It is 12:00, and I do work with students at school. No matter how stern and disciplined I am with an audience in the auditorium, the stomach usually speaks louder than the mind, so hopefully you have gotten enough refreshments to carry you over twenty minutes.

In order to give me an idea of our audience, I would like to take my own survey to get a feel as to whom I'm speaking to. Just by a show of hands, teachers, administrations, those who are working at the site level, just raise your hands. Researchers, people who are working with different projects...what else is there? Others raise your hands...Very good...Teacher trainers....

I want to set the tone of my presentation and just let you know that I am responding to this document from a practitioner's point of view. That means that when I read the statistical information, my mind was focused on how this was going to help me in what I do on a daily basis? I'm in the business of hiring, supporting, providing training, and even firing teachers from all fields and different levels. In the area of bilingual education and ESL, we do have a very difficult and challenging situation that differs from other fields that we deal with. You have a different kind of population that has a higher level of transience. You have a program designed that oftentimes varies with the kind of population that you have, and you have a funding problem in many cases so that the resources and the funding sources are just not available, and you have to respond to the needs and demands of a changing population.

My question about this document, again, is how that information can assist me in doing our job more effectively at the site level." The interest in the topic was to create and retain a qualified teaching force, and this must be addressed at all levels not just at one or two particular levels. We need to identify as a part of the research what is our goal in providing this information and data not only to researchers but also practitioners. I felt somewhat frustrated in not having enough information even though this is just a beginning in providing us with a basic impression of what the national trends are in teacher supply and demand. It cannot be strictly looked at in terms of pure numbers of how many students and how many teachers and add and subtract the two and we have a formula. We as practitioners not only look at the number of teachers that may be available for our vacancies and also at applicants, but we are looking at the quality of our instructional team as well as the effectiveness. That is an issue that has not really been brought forward in the research. We, as administrators and educators and researchers, need to take a more collective and wholistic view of the meaning supply of and demand for teachers in the field. We look at employment requirements which often are based on our student population.

I've worked in Los Angeles, San Jose, Washington DC, and in the immediate Washington Metropolitan area, and I have found that each district differs significantly, whether the language minority population is homogeneous or heterogeneous, whether the language population is transient or very stable. This affects the kind of statistics that we need to look at. Employment requirements oftentimes do not take into account the kind of population with which we are dealing. If a bilingual education program is adopted for a particular district, how does it address the needs of a diverse language population that may in a class of twenty-five have as many as twenty different language groups?

The definition of the program by employers in the school district can also affect the statistic of whether or not teachers are available, qualified and effective in a particular program. Teachers that may be effective in one particular district because it has a high emphasis on English as a second language may not be very effective in a district that requires bilingual instruction in the native language. Taking these variables into consideration, national trends, I think, perhaps not give us an accurate picture.

I, as a practitioner, look at the many different variables involved in developing an effective school based on the needs of our children. We look at the kinds of things that educators need to prepare them for the task at hand. We look at incentives. There was some mention about covering costs for travel and moving for teachers. This year, in working with our students, we did our own statistical analysis and took a look at our student population and realized that there was a weakness in a particular academic area. We set a goal in order to achieve higher test scores, and in January we developed a partnership with a corporation, a national corporation, to provide us with an incentive for students to achieve. They gave us a couple of thousand Slurpee coupons, and what we did every week was to provide students with a list of vocabulary words, and in the cafeteria during lunchtime those students who could accurately spell, pronounce, define, and also use the word effectively in a sentence got a slurpee coupon. My first vocabulary word was discombobulate because I had taken a look at the environment in which we work, and there are some very discombobulating situations that we have to deal with on a regular basis. Surprisingly, within a three-month period, that one particular area saw an increase in test scores in vocabulary and spelling of a +10 percent in the national average for our students. The other areas, in which we had no emphasis, remained the same such as mathematics and science. Is the purpose of this research not only to tell it like it is but also to prepare us to change statistics and to provide us with the tools necessary to make a difference? As a practitioner, that's what I'm interested in finding out. There were many questions asked in the research, in the document, that I was just really anxious to respond to. Unfortunately, the time does not allow me to go into detail, but I'm not looking at statistics really as an end in itself but a point of departure, and I would like to see the research identify those districts that have a high level of stability among their teachers. Use the time, energy, and resources not only to give us a national view of where the trends are...more males or females...ESL or bilingual ed or which level are they concentrated most and how many get a divorce in one year and so forth. Statistics for the purpose of finding out where people are and what they're doing are useful and productive, but I think that some of the questions that are asked at the end of the document are really at a point of crisis right now. We are not only looking for qualified instructors, but we are looking for effective instructors, and that is the issue that really does needs to be addressed.

There are some districts that have a high level of stability within their teaching workforce, and the statistical information, us as practitioners, need to be provided with that information. What are school districts doing in order to maintain a high level of stability among their teaching force. School districts have high turnover rates that I have seen that they leave for a number of reasons, and it is very complicated, and just as there are separate individuals in every single room, everyone has a reason why for moving onto another position, but I have found that when you create an environment that is not only nurturing, professional, and supportive of your teaching staff, there tends to be a higher level of stability in retention of your teaching staff. These are issues that need to be brought out, and there needs to be given some statistical information as to why these programs are more effective. Is it because you hire or you offer them a better salary? Is it because you provide them with sufficient and adequate staff development? Is it because the teaching environment is a positive and supportive one, and a lot like the one I have been into, in which you are relegated as a ESL teacher to the worst rooms, to the poorest locations, the less equipment and supplies.

There is a real thing that we are dealing with...a real force out there in the real world, and that is teacher burnout and dissatisfaction. Statistics that are provided in this study give us trends of why basically teachers do move on. We talk about the exit attrition and also the retention of teachers. That is a very critical area that we as educators need to understand. Superintendents of school districts need to understand that principals need to be trained in order to provide that working environment for our ESL and bilingual teachers. I have sat in schools in which the ESL population not only students, but of our teachers, are looked at as second class citizens and treated as such. We need to be given the kind of statistics and information that will help us develop those working environments that can retain and also attract new teachers.

Nothing has been addressed regarding what goes on in schools in training our youngsters. I hope I did not misunderstand, but I thought that Dr. Bowen made a reference that, perhaps, this is not really geared towards what is going on in the school or with the youngsters, but I think, and I do apologize if I misunderstood that, but I do think that building our future workforce should be a high priority, if not number one.

Last year in our school, we had a career day program which we invited 65 presenters to come from different corporations and businesses throughout the Metropolitan area, and two days before the conference that we had at our Junior High School, we had a very rude awakening and that was we had not invited teachers to come and present. So, we as educators are, perhaps, most guilty of not building our work force among ourselves. We has educators need to look at our youth and to provide an attractive model for them to turn to and say, "I want to be an educator, because that's the kind of profession that has respect and credibility." It is not enough to just provide statistics to the University and say, "You need to offer more courses." It is not enough to provide information to the districts and say, "You need to bend the rules and give emergency certification and provide more incentives for teachers to come," but we must create from within the groundswell of our youth; a positive work force that is going to address our future needs when we all retire, and they are the ones who are going to be continuing on.

I would like to conclude just by giving a few examples about our youth, because that is the business that I am in. For some reason, schools have not followed the lessons of our predecessors. We do not see clubs and organizations such as Future Teachers of America in our schools. It just does not have the kind of credibility that it did in the past. We do not see a career day...the status of teaching as being critical to the nation's future, not just for a job and not just for employment, and I really think that the research and this document needs to look at those areas and what schools are doing and provide us with statistical information and not to continue to say, "More, more, more analysis of data," but the effect of what our future is, has to do with how much information we receive at the side level, and I think that there needs to be a definite response to the questions that are on the back of this document, and there needs to be a focus and to how the statistics are being compiled and how useful it will be for the practitioners and not for analysis as an end. Thank you very much.

Presenter: Jorge Chapa

Discussant: Carol DeVita, Population Reference Bureau

Before I comment on Jorge's paper, I just want to give you a little background on the Population Reference Bureau. We are a non-profit, non-advocacy, non-partisan, organization that specializes in demographic studies. We work with the education community both at the secondary school and university levels, preparing materials that can be used in the classroom. One of the projects that I've been working on recently is called, "America in the 21st Century." This project looks at demographic change and its relationship to a whole series of public policy issues and questions. We have put out a series of briefing reports that highlights the demographic trends that are currently in place and how these might impact on different public policy topics and concerns.

One of the books that I authored was on Human Resource Development, which looks carefully at our education system, our future work force needs, and at retirement questions. We have also prepared materials on different minority groups. Ray Valdivieso was one of the authors for the "U.S. Hispanic Population - Challenging Issues for the 1990's," that we produced about a year and a half ago. We have also another report coming out, I think, in November, which will be on the Asian-American population. We think these reports will be quite valuable, because it will take perhaps two or three years before 1990 census data are available to look at subgroups within the population. We have also had some special studies commissioned for individual states. We have one on California's education system and another that looks at demographic changes in Texas.

I would be happy to talk with any of you further about PRB and our publication program.

I found Dr. Chapa's paper particularly interesting not only because of its implications for the development of education and workforce policies but also because his conceptual framework touched a very personal note for me. I am, according to Dr. Chapa's classification system, a second generation American. My father was born in Italy and immigrated to the United States at a fairly young age. My mother's parents were Czech immigrants. I was raised in Chicago, where as you probably know, ethnic traditions, neighborhoods, and identities are quite strong. Neither set of grandparents ever became fluent in English and not surprisingly, none of us grandchildren (there were thirteen of us in all), ever really learned to speak more than a few words or phrases of their native tongues. Although this process of assimilation into American life is considered very typical of European immigrants, I have often felt a loss (particularly now as an adult) in having missed the richness of communication and cultural continuity that a bilingual speaker has the experience of knowing.

To be sure, English language skills are an absolute necessity given the social, economic, and political context of American life. But we must also value the broader opportunities that bilingual education can afford. In our emerging global economy, fluency in other languages and knowledge of cultures can indeed be an economic asset, not a liability. So, as we think of how we are going to educate our children, particularly, our bilingual children, we need to consider the future as well as the present and past.

Perhaps, because of my own experiences as the daughter and the granddaughter of immigrants, I was sensitive to a shortcoming (or weakness) in the classification scheme of first, second, and third generation Americans used in this paper. The model is based on the nativity or place of birth of the child or of the child's parents. Given data limitations, this is a perfectly reasonable way to construct a model to analyze the use of English in the home from one generation to the next. Data are sparse and sometimes you don't have all the information that you might want to construct detailed measures. But it also might be interesting to see if there are differences in the progression, if we take into consideration age at migration or parent's gender.

Based on a totally unscientific sample of one—my family—it was the women of my family, my mother and my aunts who learned and continued to speak my grandparents' native languages whereas my father and my uncles quickly lost the skill. Does gender make a difference in perpetuating language skills and cultural identity? Do these differences, if they exist, reflect on the ways in which boys and girls are educated, exposed to jobs and career patterns or on gender-based values and expectations that different ethnic-racial groups hold? I think it is an important question to ask, and I certainly think it is an important research question that might add to our understanding of how acculturation and use of language progresses from one generation to the next.

Similarly, the age at which immigration occurs might also be an important factor in the adaptation and use of English both in and outside the home. Young children who immigrate to the United States are much more likely than older children or adults to acquire and use English language skills, and this might affect the generational progression of language use described in this paper. Unfortunately, such detailed information is not readily available from national data sources. Thus using parents' place of birth, as Dr. Chapa has done, is a very adequate proxy for studying generational questions. However, controlling for age at migration might add some useful insights into the acculturation-assimilation debate.

I'm a little more concerned, however, about the analysis and interpretation of findings regarding family income and the high rates of Spanish retention among Latinos. As Dr. Chapa has rightly pointed out, there is simply an association between family income and use of English in the home. We should not make the mistake of interpreting this as a cause and effect relationship. If you have a copy of the paper and go back to Table 8, you will see that except for Hispanics, the second generation, not the third, reports the highest income among all other race-ethnic groups. This is counter intuitive to what we normally expect—that each generation does somewhat better than the preceding one. This finding may be the result of data limitations, but I note that it is something of an anomaly.

What is more, among the Asian population, where nearly half (45 percent) of the children come from non-English backgrounds, the income differential between Asians and Anglos (or non-Hispanic whites) was not nearly as great as between Anglos and Hispanics. Although language may be an important barrier to economic attainment, it is only part of the problem. Further research on the relationship of education, language, employment patterns, and income are clearly needed.

What this paper most dramatically illustrates is the powerful demographic changes that are occurring in the United States school systems. Nationally, the school age population is expected to grow by about 8 percent during the 1990s, with some states in the South and the West likely to experience more than double this rate of growth. Arizona and New Mexico for example, are expected to have more than a 30 percent increase in their school age populations. California and Florida may see over a 20 percent increase. Much of this growth is going to come from new immigrants to this country. By the year 2000, we estimate that about one-third of all school age children in the United States are likely to be from minority backgrounds, compared to about 20 percent today. Immigration plays a very major role in this increase. Many of these students will have limited English proficiency. This is going to be an enormous challenge to the educational system and to all who work directly in English language programs. Already in Los Angeles, some eighty different languages are spoken throughout the Los Angeles school system.

At the same time, changing economic conditions are bringing a new mix of jobs to the United States' economy. At a minimum, most jobs in the future will require good communication skills, basic competency in math and reading, the ability to give and receive directions and information, and an aptitude for problem solving. In particular, the ability to interact with customers or co-workers will be a key element to employment opportunities in the 21st Century. There will be few jobs for the truly unskilled and uneducated worker. One estimate from the U.S. Department of Labor finds that over 50 percent of the new jobs that will be created are going to require at least some college level training, compared to about 40 percent of current jobs. While, not every new job is going to require advanced education and training, education will hold the key to economic success, to job mobility and to higher wages. English language proficiency will be a major factor in this equation and will pose important challenges to educators, policy makers, and the business community in the decade ahead.

Developing America's human resource potential will mean keeping educational opportunities open to minorities and to educationally disadvantaged students. How well we respond to this challenge will help shape America's future and its competitive position in a world economy. It will also affect the social and economic well being of every American in the United States. Emphasis on language training and the preparation of our youth for future jobs will be a critical task for the decade of the 90s.

Presenter: Jorge Chapa

Discussant: Rafael Valdivieso, Hispanic Policy Development Project

I said to Alex Stein at the beginning of this session this was going to be the critical acid test for this group. Let's see what kind of motivation they have to be here at the end of the day listening to a bunch of demographers talk about numbers, estimates, and projections. Well, I think we are holding up pretty well. Let's see what we can do here.

My comments really will be focused on one or two aspects of Dr. Jorge Chapa's paper. But first I want to say that it has always been tremendously frustrating to deal with numbers when it comes to the populations we have been talking about, specifically, the minority language background population and so-called LEP children, the limited English proficient. Anyone who has been in the field knows it has been a tremendous problem, particularly in the last ten years or so. We have never had a data base with direct measures of these populations. Usually we have only indirect measures and approximations to work with. Then sometimes we make projections from the approximations or estimates. It's just always limiting and adds to the controversy that has surrounded bilingual education. Part of that controversy concerns what is the actual base or number of students that need to be served. So it is with some admiration that I watched what Jorge was trying to do in his paper — trying to develop, once again, some, more current estimates. Some of the estimates we've had go back almost ten years now, so this is really the latest wave of estimates. Specifically, I think the techniques that he uses are fine. But in the end I do have a problem, and that problem has nothing to do with the logic or techniques that he uses.

Before I go on let me say I'm not talking here about a major flaw that destroys the study or anything like that. Nor do I argue with the notion that there has been a very large percentage increase in language minority children in the country. I think there really has been a large increase. So let me get down to some of the specifics. As I said, the problem is not with the logic or the techniques. It goes back to the original 1979 Current Population Survey database, and, specifically, it goes to the questions used to develop the baseline for the 1979 minority language (NELP) population. I'm not used to that one — the non-English language proficient population. The question, as Jorge mentioned before, is: Does the child speak a language other than English at home?

Now, to zero in a little bit more, I think the estimates for the third generation and probably the second generation are too high. Actually, Dr. Chapa did make some reference to this possibility in terms of the second and third generation when he was making his presentation. I'm sure you noticed it.

Dr. Chapa said that almost 90 percent of the second generation among Hispanics or Latinos were of non-English language background and that about

50 percent of the third generation also had that kind of language background. Now, these proportions, you will also notice, were higher than in other language groups. They are also high compared to estimates by other researchers. That is, the overall totals that Jorge ends up with may be in line with some other researchers, but I haven't seen them that high.

Jorge also mentioned the poverty factor as a possible cause of the maintenance of Spanish in the second and third generations. Carol mentioned that she was a little skeptical of that. To some extent, I'm skeptical, too, but I do think that these higher levels of poverty among the first and second generations account for some of the maintenance of Spanish because poverty insulates the community to some extent in maintaining its language.

If anybody wants to pursue that, we can continue with that line of thought in the question and answer period.

Let's go back to the original question: Does the child speak a language other than English at home? Well, we know about some of the problems in using a single question like this for developing population estimates from work done in the mid-70s by a team at the National Center for Education Statistics, Les Silverman and Dorothy Wagner, who is also in our audience today. We know about some of the inadequate questions used prior to the 1975 Survey of Income and Education on which Silverman and Wagner worked. As a matter of fact, some of the same questions have been used since then in the 1979 CPS Survey and also in the 1980 Census. These questions just aren't fine enough to get to some of the answers that we want. In one sense, this particular question is too restrictive, and in another sense, it's not restrictive enough. Let me explain. "Does the child speak a language other than English at home?" is not specific enough. It doesn't ask whether it is the usual or the most frequently used language at home. It just says, "Does a child speak another language at home?" So, in that sense, the question is not restrictive enough. You need that qualifier in there.

On the other hand, it's too restrictive because it asks about a language other than English. It eliminates English as a usual home language. So the question just is not a good one: However, for the purpose of developing first and second generation estimates, I don't think it is a bad question if you can make the assumption that the Spanish language is maintained in these homes. You can not always make that assumption with the other languages. We can assume Spanish is being used often in the home environment because we do know there are a lot of Spanish language contacts including family members and friends who have recently immigrated to the U.S. The need to speak Spanish to others in the community and in workplaces is pressing, so the question really isn't whether Spanish is being maintained. I think it is being maintained to a high degree. In order to develop these baseline estimates, the question really is how much language shift to English there is, how much English is actually being used in the home, and how much English the child has. I hope I haven't left you all behind with all these qualifications, but I think it is very important to try to zero in on this.

To say it another way, the closer we are to the first generation, the less problematic is the question, "Does the child speak a language other than English at home?" After the first generation, we need qualifiers about how much the other language is used in the home.

I think it is the use of the three generation scheme that helps us to see the limitations of this question. I think it is a very useful scheme and I think Jorge should be commended for using it. But the scheme can only be used with the June, 1979 and 1988 Current Population Surveys. In these surveys the respondents were asked for the nativity status of themselves and their parents. From responses to these questions, the researchers can deduce subsequent waves or generations. Incidentally, the third wave or the third generation is the third generation and subsequent generations combined. I forgot to mention that before. That's very important because it adds to my skepticism about so many of the third and subsequent generations of Hispanics having a non-English home language background.

Taking these qualifications into account, I made some quick calculations. I just used some estimates from prior research, including the work of Calvin Veltman in his Future of the Spanish Language, published by my organization, the Hispanic Policy Development Project. In reference to the final figure of about 5.7 million that Jorge Chapa gives us for the total non-English language population, I used some lower percentage points of language minority background for the third and subsequent generations to develop an estimate of between 4.7 million and 5.5 million. So let us say that I come within about a million to half or quarter of a million off Jorge's total mark. Let's say I round off the total figure to 5 million. I could live with an estimate of 5 million non-English language background children in this country as of June, 1988. The LEP figure shouldn't be a problem. If you use the ratios that Jorge used, you should be able to develop an approximate figure for limited English proficient children.

It is very difficult to talk about all these numbers and all these acronyms and labels at the end of the day. But I think we can now get into some questions and answers. Thank you.

Presenter: Bernard A. Mohan

Discussant: Anna Uhl Chamot, Arlington Public Schools

Bernard Mohan is the father of content-ESL. All of us who have sought to understand how language and content can best be integrated for learners of English as a second language began with his seminal 1979 article in the TESOL Quarterly, "Relating Language Teaching and Content Teaching." We expanded our understanding with his book, Language and Content, which appeared in 1986 and have continued to follow the development of his ideas in numerous publications and presentations since then. Dr. Mohan's presentation at this research symposium builds on his prior work and provides a framework and rationale for content-ESL, which includes both suggestions for practice which are supported by research and suggestions for research which have been identified through practice.

In addition to commenting on some of the major points presented in Dr. Mohan's paper, I would also like to provide some illustrative examples from my own experiences with content-ESL.

The first important point in this paper is that language and content need to be learned simultaneously and systematically. This entails careful planning at both the curriculum and the daily lesson planning levels. Piecemeal content topics selected at random may succeed in providing for language development, but they fail to provide for the systematic conceptual development inherent in a discipline. This is why a content-ESL curriculum closely aligned with the school district's content curriculum for native English speaking students is essential. Each discipline has developed a curriculum sequence which takes into account the developmental needs of children and which builds on students' prior knowledge and recycles major concepts at increasingly complex levels. The curriculum reforms that are underway in mainstream education should be reflected in content-ESL programs. For example, in science, teachers are encouraged to help students restructure their naive scientific knowledge by discovering the scientific principles underlying phenomena students have observed or experienced in their own lives and by understanding the relationships among the sciences, mathematics, and other areas of the curriculum (Minstrell, 1989; Rutherford & Ahlgren, 1988). Mathematics education is calling for an emphasis on problem solving and the use of language to communicate mathematical concepts (Campbell & Fey, 1988; Kaplan, Yamamoto, & Ginsburg, 1989; National Council of Teachers of Mathematics, 1987). In history and social sciences, teachers are being urged to present a more global view of human society in different times and places rather than an exclusively Western viewpoint (Bragaw & Hartoonian, 1988; California State Board of Education, 1987). In reading and language arts, an emphasis on the use of language for authentic communicative and learning purposes has been accompanied by a shift towards a whole language approach to initial literacy, a literature-based curriculum, and a process approach to writing (Beck, 1989; California State Department of Education, 1987; Harste, 1989; Hull, 1989). These innovations in the mainstream curriculum need to be understood by ESL teachers so that they can be integrated into the content-ESL program.

However, a content-ESL program should also include language development. We must not forget language. When a lesson focuses on content alone — no matter how fascinating or important that content is — the lesson can all too easily descend to mere transmission of information. This transmission model may be widespread in educational practices for native English speaking students, especially at the secondary and tertiary levels. It is not particularly effective instructional practice for English speaking students and is even less satisfactory for limited English proficient students. I have noticed that some ESL teachers become so interested in the content knowledge in various disciplines that they begin to teach content as information to be passed on or "cultural literacy" (Hirsch, 1987). They then begin to teach like many mainstream content teachers, among whom input — oral and written — reigns. It is easy to say, "Oh, this is so fascinating and important, I want my students to know all this information." And this leads almost effortlessly to, "Let me tell you the most important things you need to know, and then you have to read Chapter 5 and be prepared to answer questions tomorrow." As Dr. Mohan has pointed out, the verbally oriented nature of the transmission of knowledge model of teaching makes it especially inappropriate for students who have not yet developed expertise in managing verbal learning contexts in a new language.

If students are to learn language simultaneously with content, language learning objectives need to be specified along with content objectives for each lesson. In the instructional approach which J. Michael O'Malley and I have developed, the Cognitive Academic Language Learning Approach (CALLA), teachers are asked to identify language objectives parallel to the content objectives specified for each lesson (Chamot & O'Malley, 1987; 1989; O'Malley, 1988). These language objectives include not only content-specific vocabulary development but also active practice in listening to new information, reading about the content topic, discussing the topic in cooperative learning contexts, and writing to express understanding of and personal viewpoints about the topic presented.

The second point that I would like to reiterate is the importance of representing knowledge structures graphically. While there is general agreement about the impact of visual representations in communicating messages, we may not explicitly teach students how to use and construct graphic representations as an aid to understanding and recall. Students who are not made aware of the value of graphic representations as a legitimate means of communication may, in common with Tang's students, see graphs, diagrams, and illustrations in their textbooks as merely decorative rather than informative (Tang, 1989). In teaching students to make use of graphics as learning strategies, teachers should provide examples of different types of graphic organizers and show their links to different types of knowledge structures. My own experience is that teachers find it easy to adopt a single type of graphic organizer, such as semantic mapping, and use it indiscriminately without regard to its appropriateness to specific knowledge structures. Teachers need to expand their repertoires of graphic organizers so that they can show their students how to match a particular graphic to the information type or knowledge structure.

A third idea in Dr. Mohan's paper is the importance of expository discourse and the role of prior knowledge for both reading and writing. Reading specialists are in general agreement that reading comprehension can be improved by teaching students how to recognize text structures. As Dr. Mohan has pointed out, at the beginning stages of schooling, students are exposed almost exclusively to narrative text and have little experience with expository text until third or fourth grade, when they begin to receive intensive doses of expository text intended to be read primarily for its informational content. The same trend is found in ESL, where initial texts focus on stories and narratives. The importance of reading expository texts at all levels of ESL instruction cannot be overemphasized, particularly when content is integrated with language.

In addition to teaching students reading strategies to recognize text structure, I would add that we also need to teach students how to recognize and utilize their own prior content knowledge. Too often teachers claim that LEP students have no prior knowledge at all when, in fact, they have rich experiential prior knowledge that can be related to academic content. In our own research we found that effective students consciously used their prior knowledge, whether academic or world knowledge, as a strategy for increasing their comprehension of a text (O'Malley, Chamot, & KHpper, 1989). What effective students do on their own, less effective students can be taught to do through direct instruction. For example, a CALLA lesson begins with explicit investigation of students' prior knowledge and a discussion of how to use that knowledge for the upcoming learning task. In this way students not only begin thinking about their relevant prior knowledge but are also made aware of its value.

A fourth important point in Dr. Mohan's paper is his discussion of task as a unit of analysis in which he notes, "Student learning may depend more on what the student does than on what the teacher does." Focusing on what the student does leads directly into the learner-centered classroom because a task-based syllabus is process oriented. In a task-based syllabus, the concern is with what students do with the material rather than with exactly how the teacher is going to present it. This focus on the task and on the student leads to language that is used functionally rather than language presented in a strict grammatical sequence.

In a learner-centered classroom, students are mentally active participants in the learning process who are engaged in constructing knowledge. This contrasts sharply with the osmosis classroom in which students are expected somehow to absorb language and content subconsciously without awareness of themselves as learners and thinkers.

The fifth topic in Dr. Mohan's paper which I will discuss is the importance of cooperative learning in the integrated language and content ESL classroom. As he has pointed out, cooperative learning not only increases the amount of student talk but also the quality of student talk by providing opportunities for students to negotiate meaning. Teachers may initially be reluctant to try cooperative learning because they foresee that students will not stay on task or will use the time for socializing instead of working. However, once they are persuaded to give cooperative learning a fair chance, they often become its most fervent supporters.

Let me give an example of how cooperative learning can contribute to the content-ESL classroom. In Arlington, Virginia, we have implemented the CALLA model for ESL mathematics and are planning to do the same for ESL science. A major goal of the CALLA for Mathematics project is to develop ESL students' ability to solve word problems. There has been some resistance to this notion, especially for beginning level ESL students. Some teachers are concerned that without advanced language proficiency students cannot learn to solve problems, and so they feel that these students' mathematical experiences should focus on computation. What I have tried to do — and I do see signs of success — is to convince teachers that problem solving is the heart of mathematics and needs to be taught simultaneously with language. Cooperative learning has provided the means to involve students with varying levels of English proficiency in problem solving activities. As I visit classes, it is really a joy to see students working in cooperative groups to solve math word problems, helping each other, sharing strategies, interpreting the problem to each other, and explaining new words. Problem solving has become a favorite activity in these classrooms, and because students enjoy it and are successful, teachers like to teach it.

A sixth important point made in Dr. Mohan's paper is that the tasks we ask students to work on should not be trivial. This point cannot be overemphasized. Because we have such a short time in which to prepare our ESL students to become full participants in the whole range of the curriculum, we must be careful not to waste their time with trivial tasks. In a content-ESL classroom we should try to see content as the content teacher sees it, not as we language teachers with our linguistic backgrounds might imagine that content could be. One of the best ways to learn to distinguish between the trivial and the essential in content is to talk to content teachers and ask them to explain how content is organized within their discipline.

When we work on summer curriculum projects for content-ESL in Arlington, for example, we have found that it is essential to involve content teachers. The content teacher has a clear grasp of what content to select from the mainstream curriculum and how to sequence it. It is difficult for teachers who are not specialists in a content area to know what prior knowledge students need before a particular concept can be understood. The content teacher, however, can tell at a glance what preteaching may be needed. In Arlington we are fortunate to have a number of content teachers who are sympathetic to the needs of LEP students and who participate with ESL teachers in joint projects such as curriculum development.

I am sure that content teachers who can work cooperatively with ESL and bilingual teachers can be found in any school district. Such content teachers should not only be sensitive to the needs of their language minority students but also be knowledgeable about current trends and innovations in mainstream education. This knowledge is important because current trends in different disciplines strongly encourage instruction for all students which, coincidentally, happens to be instruction that is particularly effective for LEP students. For example, science education is advocating hands-on science and a restructuring of students' naive understandings of scientific phenomena through observation, experimentation, and discussion. In mathematics, as mentioned above, the emphasis is on problem solving not computation. Students are being asked to explain how they solved a problem and to suggest alternative solutions. In social studies, even for kindergarten children, the focus is on understanding how people live together, what problems they encounter, and how decisions are made and what the results of those decisions are. These approaches in mainstream education lead to instruction which is learner-centered and which emphasizes language for communication in all subjects. Mainstream teachers who practice these approaches are knowledgeable about providing hands-on activities for students, organizing for cooperative learning, implementing language across the curriculum, using graphic organizers to structure information, and teaching learning strategies and thinking skills. Such teachers are ideal team mates for ESL teachers who use the same approaches in language teaching but who may lack expertise in content teaching.

The seventh point discussed by Dr. Mohan is one in which I have a particularly strong interest. My research on second language learning strategies, in collaboration with J. Michael O'Malley, Lisa KHpper, and other colleagues, has convinced me that LEP students can benefit from instruction on how to use effective learning strategies for both language and content learning. Our research has indicated that learning strategies can be classified in three major categories (Chamot & KHpper, 1989; O'Malley & Chamot, 1990):

> Metacognitive: self-regulatory strategies in which learners think about their own thinking, and plan, monitor, and evaluate their own learning endeavors;
>
> Cognitive: task-appropriate strategies in which learners actively manipulate the information or skills to be learned;
>
> Social and Affective: strategies involving interaction with others for the purpose of learning, or control over one's own affective state.

Our research has discovered not only that more effective language learners use a greater number of and more varied learning strategies but also that strategies can be taught successfully to students who have not yet acquired them on their own (Chamot & KHpper, 1989; O'Malley, Chamot, Stewner-Manzanares, Russo, & KHpper, 1985).

What does this research on learning strategies mean for practice? We believe that it means that effective learning strategies can be successfully taught to students who are learning both language and content. Learning strategy instruction is an explicit rather than an implicit process. That is, teachers need to inform students of the value of a particular strategy, model its use, and provide many opportunities for both practice and transfer to new situations. In Arlington, CALLA teachers have learned to teach strategies quite overtly in their content-ESL classes. Students have names for the strategies and discuss how they apply them. When you visit a CALLA classroom, you often hear students discussing and comparing their learning strategies. They seem to like the technical strategy names—although teachers are encouraged to substitute less technical names for the strategies. I have visited both elementary and secondary classrooms where students make remarks like, "Oh, Miss, we're elaborating on our prior knowledge," or "Oh, we have to read with selective attention." One Arlington teacher comments that learning strategy instruction gives students "permission to think for themselves." That is the whole point of CALLA.

Finally, I would like to reiterate an important point that Dr. Mohan made about the relationship — or lack of a relationship — between the grammatical and the content syllabus. The grammatical syllabus explores the many ways in which different meanings can be communicated. The content syllabus, on the other hand, contents itself with a fairly narrow range of language intended to communicate information. For example, the subtle uses of auxiliaries such as could, may, should, and would are not frequently utilized in science, mathematics, or social studies materials. Instead, the simple present is used to convey factual information, such as descriptions of scientific phenomena or geographical features. Language features that present difficulties for LEP students in content subjects are extensive vocabulary, numerous relative clauses, and quite vague pronouns referring to a noun antecedent a paragraph or more in distance. This means, as my colleagues involved in textbook development and I have discovered, that the grammatical syllabus is not an adequate tool for organizing a content-ESL curriculum. Instead, the content curriculum can provide a stable framework for developing integrated language and content lessons.

In conclusion, I would like to express my appreciation for Dr. Mohan's lucid explanation of his model of knowledge structures and student tasks in the ESL classroom. This paper has provided us with both a theoretical rationale and practical suggestions for implementing content-ESL for our language minority students.

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Presenter: Bernard A. Mohan

Discussant: JoAnn Crandall, Center for Applied Linguistics

In his very interesting paper, Professor Bernard Mohan reviews the research in second language acquisition and bilingualism and then posits some interesting directions for educators seeking to provide effective instruction for limited English proficient students. As might be expected from someone who is responsible for some of the earliest and most important work in the integration of language and content instruction, the basic theme of his paper is concerned with content-based English as a second language (ESL). Related to this theme are the concepts of knowledge structures and tasks, which he suggests offer a means of focusing instruction for ESL, or perhaps all, students.

The paper is an important and timely one. Professor Mohan mentioned early in his paper that integrated language and content instruction is not just the teaching of content in the service of language acquisition, an important point that we must not forget. The goal is not to provide a dollop of content while focusing on language development: the goal is to enable students to develop academic knowledge and skills in the content areas while also acquiring the academic language needed to succeed in school, something which can take five to seven years (Collier, 1989).

There has been much discussion during this conference about the appropriate terminology to use in this area. Is it content-based ESL instruction? content ESL? integrated language and content instruction? I would argue for integrated language and content instruction to reflect the recognition that every teacher must be both a language teacher and a content area teacher; i.e., if we are to provide an effective academic program, we cannot focus on one or the other but must recognize that all teachers are responsible for both linguistic and cognitive growth (Crandall, 1987).

Content-based language instruction and sheltered content instruction — what I will refer to throughout as integrated language and content instruction — has become increasingly important not just in the United States or the English speaking world but also in the many countries in which English serves as a medium of instruction or the language of textbooks at some point in a student's education. For example, I just returned from a week in Morocco, where I provided inservice education for the American School in Casablanca. The institute involved teachers from pre nursery through high school, some of whom were teaching in the International Baccalaureate Program. Also participating were librarians, resource teachers, and administrators, all of whom were interested in ways in which they could provide cognitively challenging and linguistically appropriate education for an increasing number of students who speak Arabic or French as their first language, though the medium of instruction is English. Given the role of English around the world, it is not surprising that a substantial and growing number of such schools choose to move into English-medium instruction at the secondary or tertiary level. Integrated language and content instruction, then, becomes critical as a means of enabling students to continue their cognitive and academic growth — their growth in knowledge, thinking skills, and concept development — at the same time as they are acquiring English.

In the United States an estimated one of every two, or at the least, one of every four, teachers will have an ESL student in his or her class during his or her teaching career. Demographic projections make it safe to assume that the numbers of teachers with ESL students will increase. Fortunately, as Professor Mohan indicates in his paper and my own experience confirms, many of our mainstream or content area teachers are very interested in learning more about an integrated approach as a means of assisting those ESL students.

For example, for some years Prince George's County, Maryland (a local school district), and the University of Maryland, Baltimore County, have been providing graduate and ESL certification training with funding from the

Office of Bilingual Education and Minority Languages Affairs of the U.S. Department of Education. Recently, when the program announced the possibility of offering a course on ESL methods for content area teachers, fifty-one teachers signed up. I taught that first class to a diverse group of teachers and administrators, including music, art, and physical education teachers; librarians; reading resource specialists and speech therapists; as well as to ESL and regular classroom teachers from kindergarten through high school. I am especially pleased that Professor Mohan, in his paper, placed his discussion of integrated language and content instruction for ESL students (or as Else Hamayan would refer to them, for Potentially English Proficient or PEP students) within a much broader context: that is, learning for all students. This is absolutely critical. If integrated language and content instruction is to succeed, it will be because we have convinced our colleagues in the content areas that strategies or techniques such as the use of graphic devices, task-based learning, or increasing attention to writing — mentioned in Professor Mohan's paper — as well as other techniques such as experiential learning, the use of dialogue journals, or whole language approaches — are effective for all students, not just those for whom English is a second language. And many will need to be convinced of that.

When I was in Morocco, several teachers expressed their concern that an integrated approach would result in a watering down of the curriculum, that modifying instruction to accommodate linguistically diverse students would penalize the English speaking student. We are going to have to be prepared to answer that concern and to show that integrated language and content instruction, thematic teaching, and the kinds of techniques mentioned earlier do not limit what we present conceptually in the classroom and can be used by all teachers to enrich instruction while also accommodating an increasingly diverse student population. Teachers are often also parents, and parents who do not have the good fortune to be bilingual can be very nervous about something which they view as adaptation for students whom they see as lacking in English proficiency (rather than students who bring with them rich cultural and linguistic traditions). We certainly need more research to demonstrate the effectiveness of integrated language and content instruction to strengthen teacher and student reports of its effectiveness.

Else Hamayan has suggested that inservice projects should involve the whole school; in that case, she includes maintenance people and bus drivers, as well as the teachers and administrators, since all are involved in student education. This is an excellent idea. A whole school model — even if it only includes the instructional staff and administration — can ensure that everyone benefits from integrated instruction. Of key importance in this endeavor, however, is the principal. Only the principal can bring staff together and make time available for ESL/bilingual and content/regular classroom teachers to observe each other's classes and to engage in joint curriculum development and lesson planning. Even if only a portion of the instructional staff wishes to participate in a pilot program, the principal's support is crucial: to encourage classroom observations for purposes of better understanding of each other's disciplines and acquisition of new strategies or techniques and to enable teachers to determine the topics, language skills, and thinking skills to be taught in the ESL/bilingual and the content area classroom.

In Morocco I was pleasantly surprised to learn that the music and art teachers were happy to be asked to relate their art and music to topics in other classes. They indicated that if animal or plant classification were the topic of a science lesson, they would find it easy to locate music or design art activities to integrate with it. This whole school approach is far preferable to something limited to one set of classrooms.

For a number of reasons, then, we need to think of this approach as one which is appropriate across the curriculum and to develop programs which involve not only content area teachers, but the wider academic community, in planning and implementing instruction. The ESL/bilingual community is important but small. If we are to provide appropriate instruction for ESL students, we must convince math, science, social studies, and other teachers and administrators of the value and appropriateness of integrated instruction.

Professor Mohan alluded to the work in mathematics which we have been engaged in at the Center for Applied Linguistics for several years. In that work we have developed linkages with mathematics teacher educators, mathematics teachers and, more broadly, the mathematics profession, through the National Council of Teachers of Mathematics (NCTM). In this work we have focused on identifying the role that language plays as a barrier or facilitator to mathematics (especially algebra) problem solving and then have developed tutorial materials, teacher resources, and teacher education materials to help both math and ESL/bilingual teachers to integrate math and language instruction. In that work we have consciously aligned our discussions of mathematics and math language with those of NCTM and the mathematics teacher educators since it is they who will be teaching our future math and elementary teachers. For example, a teacher education videotape and guide refers to the "communicative approach to teaching math and science" (CAL, 1990) since "communicative teaching" is part of the new mathematics standards being considered by members of NCTM. That videotape shows math and science teachers in both elementary and secondary schools using an integrated (or communicative) approach and demonstrates that conscious attention to language and thinking skills, as well as conceptual development, is beneficial for all students. We have also provided discussions of our work for publication in math journals and have given talks and workshops at the professional conferences of mathematics educators, as well as our more usual (and more comfortable) language teaching avenues.

Professor Mohan's discussion of knowledge structures suggests that these are cross cultural; this is an assertion which will need further testing. It is clear that the ability to chunk information and to access background information or schemata is basic to our ability to process information. How much these are affected by cultural differences is worthy of investigation. For us as teachers, however, it becomes important to devise activities which bridge experiences and to provide texts which can be understandable to students with differences in background information and different degrees of English language proficiency.

One suggestion made by Professor Mohan is the use of graphic devices. As Professor Mohan indicates, graphic devices — whether flow charts, timelines, tables, or graphs — provide ways of presenting information so that it can be understood, remembered, and applied. Besides taking advantage of these graphic devices as they appear in a text, teachers and curriculum writers can also restructure text into diagrams, charts, or tables to make the information more easily understandable to students of varying levels of English language proficiency, as well as varying amounts of background information. Venn diagrams, flow charts, and classification charts can present information in ways in which it is not only more easily grasped but also retained.

For example, at CAL we recently adapted a series of texts for the United States Immigration and Naturalization Service to make them accessible to adults with limited English proficiency. The resulting three texts — Of the People, By the People, and For the People — use an integrated language and social studies approach, developing language and content objectives (Short, Seufert-Bosco, & Grognet, 1988). That series employs a variety of graphic devices to recast what was dense prose into more easily understood formats. A long description of the three branches of government became a chart which outlined not only the composition of the three branches but also their roles and responsibilities, enabling students to have a much clearer explication of the relationships among the three. As Professor Mohan indicated, teachers often treat graphic devices as incidental. What is needed is to help teachers to make these an intentional part of the teaching endeavor.

Professor Mohan has suggested that tasks can serve as the basic unit for development of classroom interaction and classroom instruction, providing an excellent vehicle for integrated instruction and encouraging interaction and cooperative learning. I agree. Ideally, these tasks should be developed thematically, so that instruction does not consist of a set of disparate tasks but, instead, a variety of complementary activities which develop a particular academic concept.

It is important to remember that though task-based language learning is rather recent, it represents an adaptation of a long history of effective use of tasks in instruction. Tasks are at the heart of adult and vocational education and, more broadly, of workplace literacy and basic skills programs, where they serve not only as the basis of the needs analysis or literacy audit but also the focus of instruction, with smaller pedagogical tasks leading to larger, authentic tasks. Worth mentioning here is the Adult Performance Level project, conducted by the University of Texas at Austin during the 1970s, which resulted in an important explication of the kinds of knowledge, as well as the kinds of skills — oral and written language, computational, problem solving, and interpersonal — which help adults to function effectively in American society.

By recognizing our links with other disciplines, we can demonstrate that much of what we do is also relevant to other educators and can also connect with colleagues in other disciplines.

Let me end with cooperative learning and the potential it offers us in integrated instruction. Perhaps most important is that it enables us to bring together students with different ethnolinguistic and cultural backgrounds, different educational experiences, different degrees of English language proficiency and different levels of skill in listening, speaking, reading and writing, encouraging them to interact with each other and to work together and be successful both as a group and as individuals. With the growing diversity in the American school population, cooperative learning is particularly important since it offers the opportunity for culturally diverse students to share their ideas and become aware of tolerant of linguistic and cultural differences.

We at CAL have a proposal pending for a project which would bring together social studies and ESL teachers for this broader purpose of helping schools to recognize that ethnolinguistic diversity is a resource to be shared across the school. Students engaged in projects which help them to understand and appreciate their own and others' cultural heritages and backgrounds are a positive resource from which all students can benefit. This is only another example of the ways in which integrated language and content instruction might assist all students, including those for whom English is a second language.

I'd like to end with some recommendations for projects deserving of federal support:

1) We need to understand better how integrated language and content instruction is actually practiced in the classroom and how the practices differ with different educational situations. OBEMLA has requested a survey of integrated language and

content practices which should go a long way towards answering this need.

2) We also need to engage in longitudinal evaluations of integrated programs of a variety of sorts — integrated curricula, paired classes, peer tutoring — to identify how well various practices work. To be most effective, these evaluations need to be conducted collaboratively with local education agencies working together with institutions of higher education or nonprofit organizations.

3) We also need increased support for curriculum and materials development for integrated language and content programs. Of special importance are curricula which can be used with all students, employing thematic development, cooperative learning, graphics, etc. While some initial attempts have been made in this area, the available curricula and materials are very limited. What is needed is a national effort to support a number of these projects.

4) Also needed is more support for teacher-researcher collaborations and classroom-centered research. Teachers need to be provided with opportunities to engage in meaningful observations and analyses of their students' language and conceptual development, reducing the reliance on what is revealed on tests and offering much richer information (from analysis of students engaged in group work, peer tutoring, or cooperative learning) from which to adapt instruction.

And, in keeping with my emphasis on involving all educators in integrated language and content instruction, I believe that the results of any of these projects should be disseminated broadly to educators, not just to the ESL/bilingual community, since they have much to offer to all students.

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Presenters: Thomas D. Yawkey and Joseph O. Prewitt-Diaz

Discussant: Olivia Saracho, University of Maryland

Tom Yawkey spoke about theories and research. Theories in bilingual education are so abstract, and at this time, it may be more of a cutesy presentation rather than an abstract one, but it is the time we are scheduled so we'll have to deal with it.

There is a little problem and that is Tom Yawkey presented part of the paper, and I read the paper. So that in reading the paper, first, there is what the author intends to say and then what the author actually writes and lastly the way it's actually interpreted. I am going to make some remarks not as a criticism of Dr. Yawkey, but I am trying to bring up some points related to my experiences in relation to his theories, and I am also borrowing from theories of other people. I would like to share that with you at this point. There are a number of points I would like to make. I, like Sonia, am going to refer to LEP students because that's what I am used to. The first point I want to make is that when we refer to bilingual education, I like to put bicultural in it because I don't think you should be dealing just with language; you need the culture. The other thing is that bilingual, bicultural education should be an enrichment program rather than a compensatory program. Many times it falls through the cracks and anybody who is in bilingual education is considered deficient or handicapped, and I like to tell people—and any time I have the opportunity I always bring that up—that bilingual education should be an enrichment program. It's where children share and their culture, their language and they learn, because children learn from one another.

The second point that I would like to talk about is that Dr. Yawkey says, "The major goal of kindergarten is to prepare the young child for formal school and the first grade," and he talks about the fact that it is generally regarded by many early childhood educators as a bridge between home and school, and, therefore, stresses socialization and a whole bunch of other neat things. Well, many times what happens when children go to school, there is so much pressure. Barbara Flores made a good point about children who have a different language and culture; many times there is a lot of pressure on them. We give them so much material that at the end of the year we want them to get a doctorate rather than preparing them for life. If you look at the material, that's really what we're trying to do, and that's not our goal. We want them to be able to prepare for life and survive in society, and we want them to learn the language, but in doing so we cram.

You remember when you were taking a test in school, and you crammed, and you didn't do as well. You were pressured. Then we come up with the LEP students who didn't do as well and remember all the cramming and all the pressure we put on them. Many children face academic problems. The regular children have a problem, and it becomes more difficult for the child who has a different language and a different culture from the one in the schools.

I would like to borrow some stages that I think are important. You might have heard them, but please bear with me. There are four stages that I think children go through, and, as a matter of fact, I even look at adults and try to put them in the different stages.

The first stage is usually the lowest level, and that's usually the stage of confusion. When children show up at school, they are really confused. Students become confused when they experience a different language and a different culture. An example. This may be an old example because I have noticed that a lot of materials have a lot of bilingual things, a lot of multicultural charts, a lot of different books, but in some schools they still have the old charts or books, so let me just give this example. There is a series of charts that used to go with the unit on the family. The father is usually blonde with blue eyes, wears a suit and holds a black attache case. Dalia, for example, who doesn't speak or understand English, sees the chart and discovers that the family on the chart doesn't resemble her family. Her father has black hair and wears greasy overalls because he is a mechanic. This experience confuses her. Let me give you another example from a different context. There is this little Eskimo boy. He goes to school, and then he comes home, and, of course, his mother says, "What did you do in school today?" And, of course he is puzzled. I don't know if any of you remember the Dick and Jane series. There was that dog, and then there were Sally, Dick, and Jane, and the mother always had the little apron and the heels, and that was how she did the housework, which is really not the way we do it, but that was the way it was in the book. The little Eskimo boy went home and the mother, of course, asked, "What did you do at school today?" and he said, "We read a story that was rather funny. The mother ran around the house all day, the dog did not work, and the father came home without any food." And so it was confusing to him because from what we read about Eskimos, the dog goes out and works with the father, and the father brings the food at night. That really was the experience, so this is the sort of experience that children go through. It's a stage of confusion.

The second stage that they go through is denial, and that's when students deny their language or culture. They pretend that their language and culture are the same as the one in the schools. An example, Miguel Hernandez, is a Spanish speaking student. He changes his name to Michael and may even go a step further and change the pronunciation of his name from Hernandez to Jemanes. Then, there is stage three, which is adaptation. Students adapt to this new or different custom in the culture, which they perceive to have more advanced patterns. Therefore, children will assess each language and culture, too, and adapt only to what best suits them, and that is at the third stage. For example, when Jose and Joyce eat food from his culture, he makes it a point to celebrate birthdays and holidays with his family and friends because he usually gets to eat and has a good time. However, when he is with his English speaking friends, he refuses to speak his native language and listens only to English speaking stations on the radio. There is no sharing of his culture.

The last stage is the highest level. It is the transition stage, where students are able to make the transition back and forth from one language and culture to another with ease. An example. Juanita is a fluent bilingual student. She speaks her native language and the school's language. She carries on a conversation in the language that is used in the group. Her behavior is appropriate to the different situations or settings such as the home, school, or gatherings.

I would also like to make another point. For a long time I saw all these studies that say code switching and children who do code switching are not as intelligent or whatever. But I think of myself. Whenever I am speaking with someone who doesn't speak English, I have the tendency to just speak all Spanish. When I speak with someone who doesn't speak Spanish, I have the tendency to just speak all English, but when I speak with somebody who speaks both languages, I say things that are more comfortable for me. I don't think that I'm supposed to be less intelligent in one situation than the other, but I think it is the level of comfort and the level of informality that I'm dealing with.

We are dealing with social-cultural factors that really influence the way the child develops, and we need to be able to understand this, and we need to be able to accept this, so that when we bring in the bilingual program, we incorporate some of these things.

The third point that Dr. Yawkey cites from experts in the field. There are several conditions necessary for the development of bilingualism in children, and in his citations, he re-enforces the teaching of bilingualism in a natural context. I understood it, but we taught so much through drill and practice, and they are talking about teaching the language in the natural context, and for so long, it's been a lot of drilling and practice, and I was really pleased to see this. When children are born, they are born into a family. They are born into a community, a society in which language is used. When children come into our school, many times we treat them as if they had zero language. We start to give them this drill and practice and sometimes it's just so artificial. It doesn't make sense.

I am going to deviate. I have to share this experience. When I was a Head Start teacher, I remember we had this supervisor. We had this curriculum that we had to go through. At that time I thought it started when it was delegated to the school system, and we had this,... "This is a pencil." We had the drill and practice that we usually did, but the first thing that we did the very first week was, "My name is Ms. Saracho, what is your name?" We went through the whole week, and that was really our curriculum. That was what was given to us, and we did it.

I remember this particular child who lived next door to me. We came in, and the teacher said, "Good morning, my name is so and so, what is your name?" And the child said, "Are you dumb or something?" He used a few curse words and said, "Every day I tell you my name and every day you ask me what my name is. I know yours. Why can't you learn mine?" The point was it wasn't making any sense to the child. Why this thing about the drill and practice? The teacher wanted the child to become fluent in English, and this was a phrase kind of thing being used, and the child just really thought that she wanted to remember his name, or that she did remember his name.

Let me just give you another example. I remember one of my nephews came home, and he said, "I think my teacher's name is Miss Look." I said, "Why is it Miss Look?" He said, Everybody says, 'Miss Look!'" This is what made sense to them, and again, as Sonia was saying, we tend to look situations from an adult perspective. We never look at them from the children's perspective. How are they interpreting what we are doing, what we are saying? Many times we have some teaching strategies that are quite different, and they don't make sense to them, but they are wonderful to us.

So, again, when children come in, they have already lived three, four, five, six years. They already have a language with them. They pick up from television. They bring all of these customs and practices with them. They have lived in the communities. They have lived in society, and they already know these things. What we need to do is to use what they know as a vehicle to teach them the new language, the new culture, and everything else.

Point four. Tom talks about McLaughlin and indicates that one of the problems in learning a second language may not be the acquisition. However, Krashen notes that there are three reasons for assuming that learning might not become acquisition for some time. A person might know a second language but not have a conscious knowledge of the rules. Second, learning may never become acquisition because a person might consciously learn the rules but does not know how to apply them. Third, the rules of a second language are not always known by the speaker. I remember when I was getting my bachelor's, Cynthia was learning how to speak Spanish because she was going to become a translator in the United Nations. "Thank God...I don't think she became a translator or we would have been at war." One of the things that was happening was she was learning the language in the classroom, and it is very, very different when we teach the rules and the language in the classroom, and when they actually learn it, interact in a natural context which is really what Tom Yawkey was referring to.

Especially Spanish; it's such a colorful language. You take it out of context and put it in these little patterns, and you lose everything that goes with it. When we teach the language, we need to provide some instruction at some particular time, but also we need to give students a lot of opportunities to practice what they have learned and to make sense of what they're learning. But let them learn it in a natural way.

Point five. Although Tom does not indicate that it is important to clarify that limited English proficiency students are not mentally retarded and should not be treated as such, I want to re-enforce what Barbara Flores was saying. Many times we see a child coming in who doesn't have the language that the other children have, and many times the schools treat those children as if they were mentally retarded, and the thing is, they are just as capable mentally. The only handicap they have, and the only problem they have, is that they do not have the language that other students have. Once they know the language, they will be able to do it just as well as the others. But when we treat them this way, we have a tendency of going back to what Tom was talking about, that is, their self-concept and their self-esteem. We treat them as dumb-dumbs, and their self-concept goes down each time, and I think we need to make them feel good about what they know and good about what we bring to them. Just because the language is different, the language that they are bringing to school is not so bad, and learning two languages, they will become richer.

I am going to jump on a little bit further. In talking about limited English proficiency, one of the ways we teach children in a natural context, and Tom talked a little about it, is through play. There are a number of theories on play, and I am going to try and go through them real fast, because I think they are important. We tend to forget that play is a child's work and just as we do work — play is also a child's work.

When I was teaching nursery school, one of the things I used to do — because parents feel very uncomfortable and want the children to be able to do drills and all of those kinds of things — whenever I had scheduled play, I usually put "work-play" and that made parents a little more comfortable. You have to explain to parents that when children are playing, you are not babysitting — they are learning language. They are becoming creative. They are learning to develop their cognitive thinking and all of these things that Tom was talking about.

Let me just give you a few theories since Tom was talking about theories, and these also relate not just to the English speaking children but also the Hispanic children who have a different language. One is what we call the relaxation theory. That just suggests that play serves to restore the energy we use during work. When children go out and play, they come back tired. This is why, when we have children we have to have quiet and inactive types of activities. When children go out into the schoolground, and play, we need to read them a book because they used all of their energy so we need to give them some type of relaxation so they are able to get back their energy. Then we have a theory which is the opposite of that. The theory says the child has all of this surplus energy and needs to be able to get rid of it. One of the things that happens, I can relate right now to my nephew who is going through this. He misbehaves in class, and he is not allowed to go out and play. Vass has all that energy, and he doesn't go out and play, so he misbehaves more in the classroom. In the end, he gets a "sad-o-gram" because he misbehaved in class. The thing is that, in terms of the play theory, children need to get rid of the energy, and we need to let them out to play, and they need to do active things to get rid of that, and that is part of the theory. Now, for those of you who are classroom teachers, do you remember when you were in the classroom and when it rained, how hyper the children got? The thing was that because they were cooped in, they didn't have the opportunity to get rid of that energy that they have all this time. So play really helps them do those kinds of things.

The other theory that we have is the recapitulation theory, and that really suggests that individuals go through stages in their personal development, and this is a sort of evolution. Children have these primitive instincts. Children like to play. They love dinosaur units. They love the cowboys and indians, and this is part of the primitive instinct, and they like to do this. These are things that they learn through play. When you go to the department stores, you go to the toy counter. What do you see? You see all of these kinds of toys.

Then we also have the one that is the opposite — not only do they need to know that, but they also need to have the pre-exercise theory, and that is what they are learning that is happening now. Again, when you go to the department stores, you see things for learning things that are happening now in the community. There are things about the doctor's office, the nurse, the firefighters, the police officers, the mail carriers. These are things that they need to be able to learn.

I want to share something really silly. One more thing before I let you go. One of the things that I do want to think and that is: Children are the jewels of our land, and God gave them to us to polish them by hand.

Presenters: Thomas D. Yawkey and Joseph O. Prewitt-Diaz

Discussant: Sonia Gulardo, Mayor's Office of Early Childhood Education,
New York City

I believe that the topic that was presented today is really not only an exciting one I think it's an area that we as bilingual educators have to look at in terms of serving the needs of our children who come in as speakers of another language. Unfortunately, early childhood education has not received the attention that it should be receiving. For some reason, as we know, across the country monies are being invested in high school dropout prevention programs. A lot of money is going into it. However, very few people are starting to look back and saying, "Where did it all begin?" Maybe we should start looking at early intervention. And so it was with pleasure that I read Dr. Yawkey's paper because I felt that at least, finally, people were starting to look at the issue of early childhood education and the implications for young children whether they be — we call them LEPs. I am still of the old LEP family, so you'll have to excuse me; I'm not accustomed to the new terms that have been discussed in the last two days, so for now they will be "limited English proficient" students.

I felt that my response to the paper would be in the context of describing the exciting program that I was a part of in New York City, Project Giant Step. I have to tell you that in my entire career nothing has been as exciting, and I have become a convert to early childhood education as a result, so that my remarks today are going to describe what Project Giant Step is, how it came about, whom it serves. I think it is very important for us to look at the results of the longitudinal study that was conducted by AP Associates of Cambridge, Massachusetts, because there are implications for young children, particularly children who speak a language other than English when they enter school. So in that context, I would like to respond.

Project Giant Step was created as a result of a mayoral commission. Then Mayor Koch, back in 1985, was very concerned about the high dropout rate in New York City. I can't say that Mayor Koch himself read the literature on the Absolante-Perre Preschool Project, but I am sure that his associates did, and, in trying to see what he could do for education in New York City, he appointed a blue-ribbon commission to look at the issue of the education of young children. This blue-ribbon commission was composed not only of higher education practitioners but also of business people, and we are talking about CEOs of large corporations, who are very concerned about the status of education in New York City and the future employment of workers. It took about a year and a half. They came up with a commission report, and in the report there were ten recommendations. One of the recommendations was that they create a Mayoral Office of Early Childhood Education that would coordinate a program for four-year-old children in New York City. The interesting thing about the recommendation that they came up with was that a program should be implemented through the Human Resource Administration that provides services through Head Start and day care; that had never been done before. We were talking about two entities whose cultures were totally different. Board of Education personnel viewed themselves as educators, and they looked upon the Head Start and day care people as just nursery schools caretakers who didn't know anything about education. Then you had the Head Start and day care folks who look at the Board of Education and said, "My God, they are failing our children, and they haven't done anything worthwhile in all these years."

So here we were at this office — charged with implementing a program through two agencies and bringing these two agencies together to agree on one program to be implemented through the two agencies. It was an interesting phenomenon. It was a lot of trial and error, a lot of yelling and screaming, but eventually people came to an agreement that there would be specific guidelines for this program.

In creating the program, the commission researched carefully the elements of quality programs for four-year-old children, the nine elements that they felt must be included. They looked at curriculum, class size, adult-child ratios, teacher certification, space, health, nutrition, support services, and parent involvement. In light of the literature on appropriate curriculum, it was decided that the program should be made up of developmentally appropriate activities and materials that enhance children's sense of self-worth, their self-confidence, their dignity, competence, patterns of success, that would promote autonomous actions, self-strategies, spontaneity. It was believed that learning in early childhood is accomplished basically through language and play, the symbolic representation and reconstruction of the world in the child's experience.

It was also decided that the curriculum should be responsive to the community in which the child lives and should be respectful of individuality, gender, disability, culture and native language. The curriculum would be sensitive to the culture of the children, and, when needed, a full bilingual, bicultural curriculum would be implemented in the particular site depending on the population. So the commitment was made to address the need for the child's native language.

To assist the program in reviewing the issue of culture and linguistic diversity, a task force was created, and the task force was headed by Dr. Migdalia Romero, who came out with a task force report that was used in the classroom sites. In the report, Migdalia went through the issues of what cultural diversity and language acquisition would be for a program — bilingual, bicultural education. So we have Migdalia to thank for that.

The unique feature of Giant Step, as I said earlier, was that it was being implemented through two distinct agencies, the Board of Education and ACD. It was to be in Head Start and day care centers. We served a total of 8,000 children. The uniqueness of Giant Step was in its staffing ratios. We had half-day programs, morning and afternoon and for each classroom, we had a teacher and an educational assistant. We had a family worker for every 120 children. We had a social worker because our belief was that we were addressing the needs of the entire child. We could not separate the child and the family, and the needs of the family had to be met in order for us in the schools and in the program sites to address the educational, social, and emotional needs of the children. That's why we had a family worker and a social worker, whose main responsibilities were to work with the families, to make that connection between the home and the school.

In order for the program to exist in a school, there also had to be a family room. There had to be a place where parents could meet with the family worker, and the social worker could work with those parents in an environment that was not intrusive on them or the rest of the school or the program. So it was unique in terms of the way it was staffed. It was also unique in its curriculum. It was a totally developmentally appropriate curriculum, and the teachers received twenty days of staff training a year. There was preservice. There was ongoing professional development. This was one of the key things that we wanted to push for because we really felt that teachers needed it. We are not saying only teachers; everyone was trained, from cooks to cafeteria people—everyone, the family workers, the social workers, the teachers, everyone participated in twenty days of training a year.

In the curriculum, child development was stressed; native language, second language acquisition, multicultural issues were addressed on a continuous basis, particularly with the social workers and the family workers because they were the ones who were working with the families. In certain situations, you had a family worker who was of one culture dealing with parents who were of another culture, and we really felt that it was extremely important that there be bicultural understanding of the work with the families that they would be dealing with.

In terms of the classroom environment, when we are talking about a developmentally appropriate curriculum based on cognitive development, the classroom setup would have to be very different from the ordinary one. The classroom would have to reflect the culture of the children and the staff. The classroom materials had to reflect a multicultural environment. The classroom had to be set up to provide the children with the opportunity to learn through discovery and through play, and one of the things that was definitely forbidden in the classroom was the teacher's desk. We would not allow a teacher's desk in the classroom because the tendency is for teachers to sit behind their desks, and in a child initiated environment, the teacher would have to be out there with the children in the learning centers, so there were not any teachers' desks.

All in all, the program has been in existence for four years, and AP Associates, as I said, conducted the evaluation. I think it would be very important now to review some of the findings of the evaluation in terms of the impact on LEP children. In 1987 APT received the award to evaluate and conduct the three comprehensive evaluations of Giant Step. It was a three phase evaluation. One phase of it was to study the program's implementation. The second phase was to study the effects of the program on children, families, staff, and institutions, and the third was a study of the cost effectiveness of the program.

I think for our purposes today, I would like to limit the discussion to the effects of the program on children, families, and institutions. We had a study sample of 1,077 children. The study sample had the first group of children, who were selected in the fall of 1987 and followed through kindergarten and first grade. The second group of children were selected in the fall of 1988 and will be followed through kindergarten. For both groups of children, comparison groups were selected from among their classmates during the kindergarten year. The measures used were in the areas of child development, cognitive functioning, the social interactions and emotional well-being, disposition towards learning, and child's self-conception. For the cognitive functioning, the preschool inventory was selected as the pretest and posttest measure for the preschool year, and one of the reasons is that it was available in Spanish also, and it could be quickly administered. The measure for the children's social and emotional development was the child behavioral rating scale, which consisted of twenty items completed on the basis of observation of the child's and the classroom's setting.

I think there were some significant findings that we should look at. Both cohorts of Giant Step children gained an average of 1.00 points per month on the PS side or more than twice the gain they should be expected to make as part of their normal development. Giant Step had almost 2 1/2 times the effect on children's performance on a cognitive test as other early childhood programs serving similar populations. The developmental gains for Giant Step children held for children in both agencies within the Board of Education and the Agency for Child Development.

In relation to children's developmental gains, three factors were identified as significant predictors of PSI performance: the individual Giant Step site, the home language of the family, and parents' attitudes about child development and about their own child's future educational performance. The home language of the child was related to the PSI gains. In general, children whose home language was Spanish achieved lower gains on the PSI; however, the study does offer evidence that in a small number of true bilingual programs in which children were taught in their native language (in this case, it was Spanish and tested in Spanish, the Spanish) speaking children made greater than average gains on the PSI. That particular piece of information was very controversial, needless to say, and the reason it was controversial was that the true bilingual programs were taking place, in the Head Start and the day care sites, not in the Board of Education sites, so politically the Board of Education was very concerned that these results should come out and show that they are not providing appropriate language programs for four-year-old children.

APT Associates plans a future study on this bilingual issue because we insisted on it at the time. The implications are too great for us to deny the existence of the findings so this year they are in the process of implementing that study on the bilingual issue. Look out for it. It should be coming out by the end of next year, and I think we are going to see some interesting things coming out of it. The children's social and emotional development in Giant Step showed significant gains in their social skills and in their ability to undertake tasks in their classroom. The overall gain was greater than what would be expected in the course of normal development. These results are all in the findings in the Executive Summary. The technical report should be ready. APT has it if anyone is interested in getting a copy of it. I would suggest that you call APT Associates. Jan Laser is the contact person, and they are willing to send out copies of the technical report to anyone who is interested.

I have a short time left, and all I can say is that there are many implications for creating a program like Giant Step or a program that is based on cognitive development mode.

Principals, first of all, very quickly, are the first ones to be very concerned about seeing children play in the classroom — I am talking about New York City, I don't know how it is anywhere else in the country. Reading scores are printed in the New York Times, so when principals go into a classroom and observe, they like to see children with a textbook and a pencil, and they really feel that the children are learning, and that, the principals feel, is going to lead to better scores on the children's reading tests. So principals have to be really convinced and trained to see that this is a positive approach for children's learning.

Parents also have to participate in this training, in particular from the cultural perspective. If we are encouraging children in an early childhood program to ask questions, to discover, to manipulate, to do things. I know personally, being Latino, that when I was young, children were seen and not heard, and the attitude is still very difficult for parents. Children are considered impolite if they ask too many questions, so it is very important that we work with parents in terms of how children learn, what are some of the strategies, so that they can become conversant and understand why children should be asking questions, why should they be dabbling with the soap in the sink, and how they, in turn, can help them at home?

Teacher training is another implication; we call it professional development. Migdalia and I have had this discussion about how important it is for teachers to become conversant with how children learn. I don't know, again, how things are everywhere else, but I know in New York City, for instance, we have had early childhood teachers who have a gym or an upper grade background, who are teaching four-year-olds or kindergarten because in many cases they have not been functioning very well in the upper grades, and principals feel, "Oh, they can handle the little ones," and that really is a problem. We found ourselves with teachers who did not have an early childhood background so the training was really very essential in terms of assessing where they came from.

There are many other implications, but I know the time is short, and I do thank you for the opportunity to say that early childhood is where we should be looking in terms of our children. There is the opportunity for language development, so please, please, do not relegate it to the bottom of the heap. Look at it carefully because our children need it. Thank you.

Presenter: Ed De Avila

Discussant: Cynthia Prince, Maryland State Department of Education

It is a double pleasure to be asked to serve as a discussant for this particular panel, not only because it is a pleasure to read Ed's work and his ideas about what still needs to be done in the field of evaluation and testing, but also because I get a chance to work with my colleague from Connecticut once again, Angie Soler Galiano. Until about six months ago I was working with Angie at the Connecticut State Department of Education, and this is the first opportunity we have had to work together since then.

I would like to offer thanks to Ed on behalf of two groups of people. First, the researchers and the evaluators, for Ed's contributions to the field of measurement and evaluation, particularly with respect to language minority students. The Language Assessment Scales has had more technical information reported on it and more studies conducted with it than any other language proficiency test, and I think we owe a great deal of gratitude to Ed for that contribution.

I would also like to extend thanks to Ed on behalf of practitioners. When you talk to practitioners about testing issues their primary concerns about tests are not technical issues nor are they political issues. Teachers' concerns revolve around practical issues, primarily that so much testing goes on in schools. Teachers want assessment instruments for language minority students that are cohesive, that are coherent, and that will help them combine reading and writing information with oral language information, so that they can make good instructional decisions for students in their programs without spending an inordinate amount of time testing. As Ed points out in the paper, until recently only two language proficiency tests were available that integrated reading and writing skills with speaking and listening skills not because test developers thought reading and writing weren't important to measure but because it was difficult to do. On behalf of practitioners, thank you for taking on that difficult task and developing the LAS R/W, which will help teachers assess students' language learning needs efficiently.

Ed has done an excellent job of reviewing the weaknesses in formal and informal assessment, the state of the art, and problems which remain to be solved. Since Ed has presented a substantial amount of information on the technical issues surrounding testing, I would like to speak for a few minutes as someone who works with practitioners and talk about the political and practical issues. A point Ed makes throughout the paper is that technical issues are often overshadowed by political and practical concerns, and I would like to give you a couple of examples to show just how complex the issues can become.

The Connecticut State Department of Education requires that bilingual education programs be evaluated annually in reading, mathematics, and language arts to gauge academic progress made by students. Students are tested in the language in which they receive instruction — English or their native language — and school districts report gains on a pre-post basis, either on a fall-to-spring or a spring-to-spring cycle. The bilingual education directors are advised to use the same English achievement test that the rest of the district uses so that there is some comparability between the mainstream classes and the bilingual education classes. There is some latitude in the evaluation design in that districts are allowed to choose their own tests. We try to limit the requirements for testing in bilingual education, ESL programs, and Chapter 1 since some students are served in more than one program. We have tried to use an evaluation approach that is somewhat flexible, but there are still state and federal requirements that programs demonstrate growth in academic achievement.

Now, putting that aside for a minute, a new test has been developed in Connecticut called the Connecticut Mastery Test. Maryland is on the verge of producing something similar, as are several other states. These statewide, criterion-referenced tests, which are becoming increasingly popular, are not designed to measure minimum competence or to compare how the students in a state perform in relation to a national norming group. Instead, the tests are designed to measure student knowledge of a rigorous set of skills and content which all students in a state are expected to know.

Panels of expert teachers determine what the content of the tests should be, and eventually standards of performance are set. In the case of Connecticut, the test has been equated to the Metropolitan Achievement Test so that districts can test in alternating years with the statewide criterion referenced test and in the other years with the norm referenced achievement test, so that annual student progress can be measured. However, one of the political issues which overshadows the entire testing program is that a decision was made to test all students in ESL or bilingual education programs with this difficult test two years after they enter the program. The two-year limit applies regardless of their level of language proficiency, regardless of their level of schooling or episodes of interrupted schooling, and regardless of the grade level at which they entered. Thus, not only has a political decision impacted who gets tested and when they get tested, but it affects school districts' ability to meet state and federal program evaluation requirements because many districts suddenly decided to switch to the Metropolitan Achievement Test since it was equated to the Connecticut Mastery Test.

Abruptly changing English achievement tests meant that the bilingual programs in the districts could not produce matched test scores for a year. In addition, the testing cycle for the bilingual education programs was thrown off because the Connecticut Mastery Test is given in fall. If we were to change the evaluation cycle for bilingual education students so that they are tested when the rest of the students in the district are tested, we would be testing them in fall, right after they have come back from summer, when their performance in English is probably at its lowest. Not only are achievement levels likely to have slipped over the summer, but students have probably lost some of their English proficiency because they have not been in the English speaking school environment for several months. Under these circumstances, students' scores are likely to be low, and their low scores may eventually be used to judge the effectiveness of the program. This is just one example of how political issues can make the practical issues and the technical issues surrounding testing and evaluation extremely complex.

Another practical problem which can complicate student assessment and prevent school districts from fulfilling their evaluation requirements can be caused by the test publishers themselves. This happened about a year and a half ago with the CTBS Espa:ol, a widely used Spanish achievement test which all Connecticut districts used to assess student performance in Spanish reading and mathematics. The publishers decided to discontinue the CTBS Espa:ol and informed districts that no more test materials would be available.

Each district then had to purchase a new Spanish achievement test to replace the CTBS Espa:ol. It is a big investment for a district to buy a new assessment instrument, and the process requires considerable care to ensure that the test matches the district's curriculum objectives and has up-to-date norms because it will probably be used for a number of years.

At the time that the CTBS Español was being phased out, two new Spanish achievement tests were under development — the SABE (Spanish Assessment of Basic Education) and the Aprenda. At least two of the districts in Connecticut agreed to participate in the field testing of one of these tests in exchange for free test materials and free scoring services. The districts were promised that if they participated in the field tests, they would get norm referenced information on students so that they could meet their Title VII, Chapter 1, and state bilingual education evaluation requirements. However, after they participated in the field tests, there was no technical information forthcoming. In this case, the test publishers created some of the problems schools encounter in trying to assess student performance and to use test scores to evaluate their programs.

There are a number of other points that Ed has made in his paper that I think deserve repeating. One is that assessing a student properly requires the use of multiple criteria. Important education decisions, such as when to exit a student into an all-English program, should never be based on a single test score. He underscores, as he did this morning in his oral presentation, that using informal assessments doesn't absolve any of us of the responsibility of demonstrating the validity and reliability of the assessment measure. This is one of the problems that Angie and I worked on very closely with teachers and bilingual program directors in Connecticut.

What we were finding was that informal assessments were being used to the exclusion of information that could be gained from formal assessments and students were being exited from bilingual education programs with English test scores so low that students would automatically have qualified for Chapter 1 programs. There is very little chance that these students could have succeeded in all-English classrooms. Their English scores were sometimes so low that they were lower than chance, that is, than if the students had randomly marked the bubbles on the score sheet. Yet teachers argued that information gathered from informal assessments, such as grades and observational data, supported the decision to exit.

I am not proposing that the test scores were necessarily right and the teachers were necessarily wrong. In fact, in many cases I believe that we saw strange test results because students fell into what Ed described as a testing window that we are missing. The random fluctuation of scores did not accurately reflect what the students were truly able to do because the tests were not developed for language minority students. Nevertheless, extremely low scores on formal assessments should not be ignored because they indicate that in most circumstances, students will not be able to keep up in an English speaking classroom without special accommodations and continuing help. Exiting a student from a bilingual program on the basis of informal assessments, only to place the student directly into remedial education or special education, illustrates precisely why informal assessments must be held to the same validity and reliability checks required of formal assessments.

I would like to turn one of Ed's issues back to him for a little bit more information. One of the points that he has made in the paper is that test validation and development should compare language minority students not only with mainstream students but with other language minority students. I would be very happy if Ed would take the lead when producing his tests and provide that kind of technical information, because it is generally lacking. However, I am somewhat confused, because as Ed pointed out this morning, there are fifteen different kinds of LEP students according to his model. How do we decide whom LEP students should be compared to? Do we provide fifteen different comparisons, and, if so, how do we use that information in a way that is useful for assessment?

I would also like to take issue with Ed's point that evaluators are guilty of recommending that schools use norm referenced achievement tests that have been normed on English speaking populations to compare the performance of language minority populations. I agree, but given the lack of tests that have been developed specifically for language minority students or that supply normative information on language minority groups, we have had few options.

State and federal guidelines require evaluators to measure gains in achievement as well as gains in English language proficiency. We have had extensive discussions with bilingual program directors about the availability of achievement tests created specifically for students who are in a developmental stage of language acquisition. I don't know of any English achievement tests of basic skills that meet these requirements. I agree with Ed that tests normed on English speaking populations are not the most appropriate measure of language minority students' academic ability, but evaluators have had no alternatives.

I would contend that it is better to use a norm referenced achievement measure to get a rough estimate of LEP student's ability to perform basic tasks in English than to have no data at all. A rough estimate at least tells us whether students are somewhere in the range of being able to survive academically in an all-English classroom. It still leaves us with the problem of trying to interpret student ability accurately when scores are extremely low, of course. Are they low because the student can do the task but simply can't do it in English, or are scores low because the student has not mastered the content, or are they low because the student simply couldn't read the instructions, didn't know what was expected, and, therefore, performed poorly?

Ed has not said that we shouldn't test LEP students at all; I think he has made that point abundantly clear. He has pointed out in the paper that one of the consequences of not testing students throughout their schooling is that it becomes very difficult to determine program success later on. If baseline data are not collected until several years after students have already been participating in an instructional program, their pretest scores will be elevated and their subsequent gains will not be as large as they might have been.

I think it would be very naive to assume that we could continue to run programs as politically sensitive as bilingual education or English for Speakers of Other Languages if we didn't have test data because that is what the media, the public, and state boards of education depend on to make judgments of educational effectiveness. Not testing also sends a very bad message to schools that they are not accountable for language minority students, that they don't need information to make intelligent decisions about how to place these students. Even worse, not testing LEP students sends the message that LEP students are expected to do poorly on tests and should, therefore, be excluded from any testing on the assumption that their scores will lower the school's average performance.

Testing, as pointed out in the paper, fulfills a number of different needs for a number of different audiences. Testing can be used for selection, for diagnosis, for placement, for deciding when to exit a student and put him or her back in the mainstream school program, and for evaluating effectiveness. Ed points out, though, that classroom needs for test information are often the last considered. What teachers really need to know in order to be effective and to place students correctly and to plan instruction appropriately is seldom the evaluator's highest priority. This is a point well taken.

If we have time, I would like to ask Ed to help me with some critical issues that are coming up in Maryland. I mentioned that Maryland is in the process of developing a new test to be administered statewide. The test will be a criterion referenced performance assessment and will cover reading, writing, language usage, mathematics, science, and social studies for grades three, five, eight, and eleven. We are at the point of determining how this test should be used for special populations of students, such as those enrolled in special education or limited in English proficiency.

An example from one of the prototype tasks which has just been developed for eighth grade mathematics will illustrate how this test differs from tests traditionally used in school. One of the most obvious differences is that it calls for students to work cooperatively to solve some of the problems. The test begins by asking students to pretend that they are in charge of building a new restaurant in their community. They must carry out a study to determine what kind of restaurant would be successful. The task requires students to make decisions in stages and to generate some research questions of their own. First they have to work in small groups to decide what kinds of questions they have to ask. They have to decide how to select a sample so that they will have representative opinions from the community. They must administer the questionnaire, bring that information back to the group and graph it, and then use the results to recommend the kind of restaurant that should be built.

The task then moves on to problem solving applications. The students are shown three different lots which they could purchase to build the restaurant. One is square, one is a very skinny rectangle, and one is L-shaped. The students have to decide which one of the lots would be the most appropriate one for their restaurant. Now, we start with some very basic computation. They have to multiply length by width to determine the area. Then they have to multiply the price per square foot by the total area of each lot to figure out how much each lot would cost. Then they are asked which one they would buy. Most students would probably say that they would buy the least expensive lot to cut costs. However, when students get to the next step in the task, they are faced with new information which forces them to go back and reconsider their original decision.

They are now given a list of specifications which the builder must follow. For example, the restaurant and the parking lot must each cover exactly 6,000 square feet. The restaurant must be rectangular. It has to fit on the lot in such a way that there is room to park thirty cars. Each car requires a 10x20-foot space, and each aisle between the cars must be at least twenty feet wide to meet the building codes. Any space that is left over must be landscaped, and landscaping costs $5 per square foot.

Throughout the test students receive new information which requires them to make new decisions or reevaluate previous ones. In the next section, they find out that if their building covers more than 35% of the lot, they must ask the city for permission to continue with the project. They must estimate how much the entire project will cost, and at the end they have to write a summary of their project from beginning to end, explaining the steps they took, the decisions they made, and how they carried it out.

This is not an easy test, but it is an exciting test. I think that this kind of test holds great promise because it reflects how people solve problems in the real world. It integrates reading and writing with mathematics and assesses critical thinking and problem solving skills. It will be very different from the standardized group-administered multiple-choice paper-and-pencil examinations which we usually see in schools.

Obviously, the emphasis on problem solving, higher order thinking, and integration of subject matter skills is bound to change how and what teachers teach in the classroom. But as we are beginning, I am wondering how this aspect of education reform is going to apply to language minority students. How do we make sure they are not overlooked so that schools are held accountable for teaching LEP students the same skills we expect all students to know, without penalizing them and making them take tests that are so difficult that they can not hope to succeed?

We have a lot of decisions ahead of us. Certainly, all of the technical decisions have to be made about scaling and norming and validating and measuring interrater reliability of the scorers, but I think this is an exciting approach to assessment, which is going to change the state of the art in testing. So, Ed, give me your best thinking, while I have you here. What should we be thinking about as we develop this test, so that we can get accurate and useful information on language minority students? Thank you.

Presenter: Ed De Avila

Discussant: Angie Soler Galiano, Connecticut State Board of Education

I guess I am getting a lot of validation this morning, and it's not test validation. Good morning. I guess Ed has his work cut out. Not only did he have to write a paper for the presentation, but I think Cindy has given him about five tasks, which he already wrote down, and I am sure he will have the answers by the end of this session. I also want to say something. I want to preface my remarks with a story.

Some of you saw an exchange that took place between Ed and me when he sat down. I gave him a $5.00 bill. I am $5.00 poorer. Let me tell you what happened the other night. We were sitting in the lounge, and there were Reynaldo Macias, Ed and I, and we were very quickly dropping in the hierarchy and going down to basic survival. It was about 11:00, and Ed started talking about a lot of crazy terms. One of them was totally foreign. I said, "Ed, what is that?" We started to laugh, and I said, "I challenge you...I dare you to use that during your presentation." He said, "I will." I should have known better. "I don't think you will. You won't dare do that." " Not only will I use it but I can speak on it for 5 minutes, if you want me to." So I said, "I'll tell you what: I am going to challenge you and I will make a bet of $5.00: My bet is you won't dare to use that term." Sure enough, he did. Not only did he do it once with a straight face. He did it twice. So what I would like to do is get even with you because of my $5.00; I want someone to stand up during the question and answer session and ask him what that is all about.

It's a pleasure for me to share this time with Cindy, who left us for bigger and better things at the Maryland State Department of Education. Cindy, in Connecticut, was the bilingual evaluator who conducted quantitative and qualitative research for us in the program of bilingual education. What a wonderful thing it is for people on the program side to have an evaluator who understands bilingual education and who is on your side. When those data are analyzed and when those data are reported, Cindy, in our case, was very sensitive to how that report was going to be perceived by the general public and the media and the policy makers, so I am really going to miss her. The position is open. See me if you are interested.

I also want to thank Ed, as Cindy indicated, for the contribution over the last two decades to the area of psychometrics. I think that the paper he presented, which will be published, is an example and an indication of the quality of work that he has performed; so kudos to Ed. I reviewed his paper from the perspective of a practitioner, and there are basically five issues that I wish to share with you very briefly.

Issue one is: What are the characteristics of an effective assessment program for language minority students? Ed does go through the documents sometimes explicitly and sometimes implicitly. He does talk about the assessment-world-according-to-Ed, and there are eight characteristics, which I will share with you.

The second issue is: Is there consistency between the program goals and objectives and the demographic characteristics and the data that I use to measure student progress and program effects?

Third issue: How is this assessment used to determine eligibility for instructional support programs other than bilingual education? Sometimes, because of the way the funding drives administration of our programs, we tend to think in compartments, but children are not compartments. They are not in little boxes. So, yes, we can have a child who is handicapped, who is special ed, who is a migrant child, who is a Title VII kid, who is language minority and in need of bilingual education services, and who also needs remedial education. How do you put all of that together, not only in terms of assessment but also in terms of programming?

Fourth issue: What is the level of communication and articulation between the bilingual educator and the English monolingual programs? Notice I don't call them "mainstream." I call them "English monolingual" or "all English." I have learned. With regard to assessment and programming of students who have been re-classified — that is what Ed calls reclassification, that it is actually the exit process.

Finally, in what fashion are tests and demographic data understood and used by policy makers, the media, and the public at large? Now, on this point, I would like to share with you some of the things that have happened in Connecticut. I don't think they are atypical of what happens throughout the country, but I do want to share with you. I want to seize the opportunity, since I have the podium, to share with you an idea that I have, and at some point, maybe on an informal or formal basis, I would like to get your feedback on this because I am a little bit tired now at this point of having bilingual education be on the witness stand. It has remained there. I go to dinner parties, and I go to cocktail parties, and they say, "What do you do?" I say, "I am the State Director of Bilingual Education." All of a sudden, there is this glazed look; I don't know if you have experienced that. It's not an issue of ego; it is getting to the point where it is hurting children.

We have some fantastic student data and other information. We are at that point in terms of sophistication. We are beginning to look at the segregated information to determine what is the best program for these kids, and we cannot develop these programs. We have the program designs in mind, but we cannot implement them because there is a lack of institutional commitment and public commitment to this population. I have thought of doing or performing frontal lobotomies on a lot of the people who are against bilingual education, but I think I would be liable to a lot of lawsuits, so I have come up with another strategy which perhaps is a little bit more practical and Machiavellian.

Here is the world of assessment-according-to-Ed—eight characteristics—some of them are very logical. One is that a good, effective assessment program should be psycholinguistically and linguistically sound.

Second: that an assessment program, if it is good, uses multiple criteria, which include informal procedures that have been systematically implemented with formal assessment. He already addressed the point that even though there are informal procedures, their use doesn't exempt a program from insuring that those information procedures do fall within the scientific validity and reliability aspects.

Third: that an assessment program include the four aspects of language proficiency: listening, speaking, reading, and writing in English as well as in the home language. Now, one interesting thing is that Anne Willig, when she conducted the study for Development Associates, found that, even though it is common knowledge that relative proficiency is pivotal in trying to determine the kind of program and the kind of support a language minority child is going to need, fewer than 20 percent of the programs reviewed did, in fact, use relative proficiency. They lacked whole language proficiency as part of their assessment programs, so that is one of the components. I should also include content area assessment.

Fourth: the assessment should be diagnostic enough that it is not only a tool to be used administratively for entry and placement and exit but also a tool that can be used for diagnostic purposes on a monthly, on a weekly, even a daily basis by the teachers in the program.

Fifth: that conditions for testing are suitable, and this is a very interesting point. It would seem a simplistic point, but just the other day, when I was reading Ed's paper, this triggered in my mind. I went to do a program audit, and when I went to interview the person that does the language assessment to determine eligibility for the bilingual program, I went to the room (actually, it is a closet, and that closet is also shared by the migrant teacher who does tutorial services). While I was interviewing the person, that migrant teacher was tutoring a migrant child. I asked the tester, the assessor, if those were the conditions that prevailed when she was testing a student for language assessment, and she said, "Yes, indeed." It was because there was no space. I have seen this in many other places. Usually these rooms are in the basement, and you have to go up and down to get these kids, and you lose a lot of time in terms of test administration, so that is an issue of concern.

Sixth: Are those who administer the tests and score, and analyze them....are they well trained? I do want to mention, and I don't know if you have seen it, but Michael O'Malley from the EACE has done an outstanding job putting together a manual on test selection in various areas. It also has some excellent training materials, which can be duplicated and which you can use when you are training your staff. One of the things Ed pointed out is that because of the fact that there are some languages (and we have sixty in Connecticut of which eight are used for the provision of native language instruction), sometimes it is difficult to obtain people who are psychometrically trained or who are even educators, who can conduct the language assessment in a given language. For example, one of them could be Urdu. There are not a lot of people that I know, so it has gotten to the point that you end up going to ethnic restaurants and trying to get people. I needed to get a person who is Afghani, and we needed that person to be trained very quickly. It was on-the-job training.

The seventh point is timing. That is a very interesting notion in terms of the schedule. A lot of the federal and state regulations dictate that a lot of the testing should be done in the early part of the year — let's say the fall, so that we can get fall norms. That can present a problem for small children who need to spend some time being socialized to school routines before they get tested. But on top of it is another factor here. The newly arrived student comes into a new school setting, and it takes just a little bit of time to get adapted to this new situation. I don't know how we are going to address that one. That is an interesting point in Connecticut because in Connecticut, in terms of demographic information, 53 percent of the kids are in grades K through 3, 70 percent are K through 5, so it is a very, very young population, so this issue of timing, and the scheduling of testing is important to us.

And, finally, does the assessment programming include a management information system which allows for easy retrieval and data analysis? That is something very important in Connecticut, and five years ago we were dealing with thousands and thousands of scores. We were aggregating them, and it was a paper and pencil operation, and when we embarked upon evaluating programs, which required a lot of data desegregation, one of the things we assumed (that was the incorrect process or approach)...I assumed that they had the resources to do, in terms of management information, to be able to get all of these data analyzed effectively, and that wasn't so. It almost did us in, and that was a problem, so we had to go out and look at the resources that they had. In some cases the problems were small, so they could use paper and pencil, and in other cases, they used a Radio Shack or an Apple computer. In other cases, we had to actually give them grants so that they could update their mainframes. So that is the assessment world according to Ed.

Let's talk about point number two: Is there consistency between the program goals and objectives and demographic characteristics and the data used to measure student progress and facts. One of the interesting things is that, in spite of the fact that bilingual education programs do teach content and do teach literacy, there are not many state agencies that do use achievement data or any measurements that are generalizable or standardized in measuring native language achievement. So what has happened in terms of bilingual education programs? There are several things that have happened.

One: Because of the fact that many people feel that a lot of the tests are not that reliable or not that valid for this population, one thing that has happened is the decision not to test. This is something that Ed calls "foolhardy." Cindy agrees with that and with the trend in accountability: State education agencies and legislators are taking districts away from Boards of Education and declaring them incompetent and declaring them bankrupt because they are not able to increase the educational attainment of students.

This is a really critical issue of accountability, so the timing, the political timing is not necessarily the right one to say, "No testing."

The testing should be consistent with the goals of the program, and, if there is native language instruction and literacy instruction, there should be testing in that area to determine student progress. Policy makers at various levels don't look at that information. It is relegated...and the focus of the attention by the media and the public at large is on rates and English achievement data, and that is a travesty, and that is one of the things that we are really going to have to work on harder in education—all of these are problems areas.

Finally, in terms of demographic characteristics, one of the concerns that I have when I look at evaluations, for example, to determine parity effectiveness is that it is not consistent with the kind of population that is being evaluated. Let me explain this to you in terms of Connecticut. Connecticut is a port of entry for Puerto Rican students. We have 15,000 LEP students, language minority children, who are in bilingual education, and of those, 12,000 are receiving bilingual education services, ESL-native language instruction. The remaining 3,000 are in ESL only programs because of the geopolitical factors that relate to the Puerto Rican population. Ninety-five percent of the Spanish dominant students in Connecticut are of Puerto Rican origin, and because it is a port of entry, there is a high mobility, and this is something that impacts not only on the assessment but also on the kinds of programs that we can have for these kids. We were able to quantify that the mobility is, in fact, 18 percent, and that is quite high. So, if we know there is a lot of going in and out, it makes sense to aggregate the data to measure parium, or wouldn't it make more sense to aggregate, so that those kids who are coming in or out or arrive late or leave early are segregated from those who have been in the program a significant amount of time, so you can get a better profile and a better picture of program effects.

Third point: How is the assessment used to determine eligibility for support programs? Very interesting. Everybody agrees with the fact that the powerful predictor is that native language proficiency is determining academic success in English, and yet why are there not that many Chapter One programs, remedial education programs in the native language? In fact, in some states, children who are in bilingual programs are completely precluded from participating in Chapter One programs because they have identified that as a doubledipping issue.

Fourth: Level of communication and articulation between bilingual and English monolingual staff with regard to assessment and programming. Many of our kids, once they leave the program. They were the stars. They did so well that they were put in the all English program, and what happens to them? They end up in the lowest tracks, and this has been documented already by LaRosa. The other thing is that, in terms of assessment, we are talking about doing a lot of linkages with English monolingual, talking about training content area, ESL, and I think one key component that should not be dismissed is what is the assessment program that is used in bilingual education programs and talking about the exit criteria, so that there is a clear understanding about what's going on with it because there is this mystique. There is this room that kids go into, and they get tested, and no one in the school really knows what is going on so I think that should be an integral part of the training.

Finally, in what fashion are tests and demographic data used by policy makers, the media, and the public at large. I already mentioned this. I am extremely frustrated. We have done some fantastic work in terms of transition, some quantitative research, looking at interaction in the classroom. We have looked at, also, the quality of reading and writing instruction in bilingual programs that had been dominated, and, unfortunately, all of that research gets lost and nobody pays attention to it except how long before the students get out. So after a number of years, and frustrated at the fact, I am limited by the resources I have to do things that I want to do for the kids, and you say, "Well, in one year or two years...." Well, one year is a fourth of the high school life of a child. I can't afford that so I want it now.

I wrote a proposal to five foundations, to get money, big bucks, for a marketing plan. One of the things that I am concerned about is that we are not able to deal with the lay community and very quickly because they say bilingual education doesn't work, and that is it. So we have to come up with very quick answers to refute these things without getting into the BICs and the CALPs.

So, finally, I am going to tell you what I want. Do you know the kind of person I want for marketing? Remember the Tylenol situation? When there was tampering with the Tylenol, I swore I would never take another Tylenol tablet. Didn't you? Now everybody is taking it. So what I want to do is find out who was the person who did the marketing for Johnson and Johnson. I want her or him. Thank you.

Presenter: Leonard M. Baca

Discussant: Eddy Bayardelle, Special Education Director, New York City Board of Education

Leonard Baca's paper is an intelligent and insightful overview of the major issues facing both researchers and practitioners in the field of bilingual special education. It is an important paper from a number of perspectives. It offers a comprehensive summary of recent research and a valuable historical framework. It both distinguishes between and unites theoretical and applied issues. And, perhaps most significantly, it clearly addresses the link between bilingual and special education.

I have chosen to highlight a number of key points raised in Baca's paper. The bulk of my comments expand on rather than challenge Baca's work. They reflect my own perspective as a practitioner faced with the challenges of working in the largest school system in the country.

In the introduction Baca notes that linguistically and culturally diverse students have been referred to as "triple threat students" because they have three strikes against them: a behavior and/or learning handicap, limited English proficiency and poverty. I submit that these students also face a fourth and equally daunting obstacle: race.

Baca states that linguistically and culturally diverse students often fall through the cracks because the federal government has traditionally responded to these students as three distinct populations (i.e., the handicapped, the limited English proficient and the poor). While this has undoubtedly been the case, I believe that state and local governments and higher education must shoulder their share of responsibility for the dearth of appropriate bilingual special education services. The lack of leadership, vision and commitment that I have witnessed at all levels of government and in higher education, in combination with inadequately coordinated services for language minority students, has resulted in programmatic fragmentation and stagnation.

The lack of a unified approach to service delivery that results from such fragmentation emphasizes the need to coordinate services at all levels — from the federal government to the individual school. When linguistically and culturally diverse special education students are served by different offices, different funding sources and different regulations, we stand to let too many of them fall through the cracks. In this age of increasing needs and shrinking resources, it is especially important that efforts on behalf of these students be coordinated to ensure continuity and follow-up and avoid duplication, waste and contradictory policy at the school level.

Accountability is key to ensuring the appropriate delivery of services. Concerns about accountability standards are particularly important for language minority students whose progress is not measured adequately and who often end up in a special education placement that might have been avoided had their learning deficits or language needs been identified and addressed at an earlier stage in their education.

Ultimately, it is the school itself which is accountable for delivering appropriate services to its students. The school should set specific performance and content standards for both its staff and students as well as objective methods for determining that the standards have been met. Standards of achievement for bilingual special education students should be expanded in order to generate student-specific reportable data that are comparable for all students. For example, the standards might include performance in reading, writing, mathematics, content subject areas and social independence; graduation and completion rates; attendance and retention rates; articulation from school to school; referral, acceptance and decertification rates for special education; movement through levels of bilingual services; postsecondary outcomes; and middle and high school dropout rates.

Accountability standards are only as reliable as the data that support them. Bilingual special educators require the most accurate and up-to-date statistics if they are to keep up with trends, staffing needs and changing student populations. As the immigrant population of the country continues to grow and diversify, demographic information is essential to pinpointing present and potential trends and trouble spots. As Baca points out, language and cultural differences are not the only risk factors faced by the CLDE student population. I agree with Baca that schools, curricula and teachers often are ill prepared to communicate with and understand the cultures, motivational patterns and academic learning styles of linguistically and culturally diverse students. However, I also must state that it is the students who pay the price for their teachers' lack of preparation. Too often, the practice is to look first and last to the student as the source of the problem.

I also agree with Baca's assertion that improved teacher training programs would go a long way to remedy this situation. But improving the programs themselves does not go far enough. It is also necessary to upgrade and update the skills — and the attitudes — of the college and university faculty who are preparing our teachers, administrators and other school personnel.

Related to the issue of teacher training is the question of language proficiency with respect to bilingual teachers. The primary goal of bilingual education, as Baca notes in his definition of bilingual/cross-cultural special education, is to teach academic and social skills through the language students know best and reinforce those skills in the second language. However, while the use of language in the classroom is often viewed as being determined by the students' proficiency, my sense is that the use of the first and second languages as media of instruction is very often determined as much by the teacher's proficiency in the two languages as by his/her educational philosophy or the language policy, written or unwritten, of the school or district.

In the same section Baca defines special education as an individually designed instructional program that is implemented by a trained specialist. It is unfortunate that because of the shortage of such trained specialists, special education (as defined by Baca) often is not implemented. All too often, what we end up with is a classroom with a lower student-teacher ratio and a teacher who is called a special education teacher but has little or no specialized training. This is especially true of bilingual special education, where the teacher may be neither bilingual nor a trained special educator. If there is nothing special about special education, might some kids be better off staying in bilingual general education classes with experienced bilingual educators?

Baca's overview of the litigation that has shaped and supported bilingual special education raises a similar issue. Limited English proficient special education students undoubtedly benefitted from the provisions of court mandates. At the same time, it is lamentable that we have allowed the courts to dictate policy when we, as educators, already know what our special education students need. Even more unsettling is the fact that court-mandated services are often more costly and less effective than those that could have — and should have — been implemented in the first place.

We often find ourselves in a reactive rather than proactive stance, spending valuable time and shrinking resources to remediate rather than teach. Sadly, by the time we get around to meeting our students' educational needs, it is often much too late.

As Baca notes, in recent years assessment has been the topic of much research and intense debate among bilingual special educators. The need to review student testing programs is related to the development and application of standards of achievement and performance, which I addressed earlier. A purpose of testing is to tell teachers what their students have and have not learned. Deemphasizing testing as a measure of school and districtwide accountability and emphasizing its more critical purpose — to tell teachers what their students have and have not learned — encourages the establishment of learning objectives that are child-centered rather than system-centered. Deemphasizing testing is especially important for students whose first language is not English, whose progress in basic learning is often overshadowed by their difficulty completing standardized tests in English.

Baca emphasizes that bilingual students with special education needs should not be viewed as handicapped because they are limited in English proficiency. The fact that so many LEP students are referred for special education and wind up being placed in special education programs speaks to the need to reevaluate the referral and placement process, as well as what is going on in general education classrooms prior to the initial referral.

Individualizing Student Assessment in Education, a paper published by the Division of Special Education of the New York City Public Schools in July 1990, addressed many of the significant shortcomings of the traditional referral, evaluation and placement process vis-a-vis limited English proficient students. For example:

> The refer-assess-place model of responding to the needs of students experiencing learning or behavior problems places the onus of the learning difficulty on the student rather than on the education system. The school system's solution is to assess the student, determine if a handicapping condition is present, and recommend special education services. Much of the current assessment activity occurs outside the student's learning environment, with little review of the student's current educational setting or attention to possible modifications of that setting to enable the student to achieve. While the refer-assess-place model is a viable response to the needs of moderately and severely handicapped students, it has not proven effective for mildly handicapped, "at-risk," or limited English proficient students. The refer-assess-place model does not encourage the school system to develop adaptive, alternative strategies for educating students who experience difficulty in school, but who are not handicapped. (p. 1)

A referral to special education must be viewed as a chance to review and reevaluate both a student's education history and the range of interventions — instructional, curricular, management and environmental — that have already been implemented. More importantly, the documentation and evaluation of prereferral interventions are crucial to preventing inappropriate referrals.

In some school districts in New York City, there are significant numbers of limited English proficient students who are referred for and placed in special education without ever having received bilingual general education services. In addition to establishing a notable link between race and referral for/placement in special education, the New York City data point to a similar link between language proficiency and special education.

Finally, it seems to me that issues of culture deserve a more prominent place in any discussion of bilingual/cross-cultural special education. Clearly, English speaking bicultural children also run the risk of falling through the cracks and, perhaps more than any other student group, risk invisibility because they are proficient in English. These bicultural students, who are entering the New York City Public Schools in record numbers from the English speaking Caribbean islands, often have very specific needs which can be handled in general education: they speak nonAmerican English; the grading systems in their homelands can be quite different from our own; there is often a discrepancy between their ages and academic placements; etc. The key to serving these students, then, lies in training bicultural educators, infusing cultural awareness into the education and assessment processes, and committing the resources and creating the options necessary to meet the special needs of these students in general education. Our bicultural students have taught us a valuable lesson: language is only part of the problem, and it can be only part of the solution.

Presenter: Leonard M. Baca

Discussant: Philip Chinn, California State University

I am absolutely delighted to be here. For the seventeen years that Leonard and I have been working together, I have been trying to get in the last word. A few years ago one of our Hispanic colleagues was making reference to Leonard and trying to show off his Spanish and was trying to introduce him as the godfather of special education. But it came out wrong, and Leonard ended up being introduced as the grandfather of special education. Nonetheless, Leonard Baca's influence has certainly entitled him to be referred to as the godfather of special education. He is certainly old enough now to be the grandfather of special education.

Leonard's paper is a very extensive paper, as Eddy has indicated, and he was able to touch on only a few things. Likewise, I am going to be able to comment on only a few of the things in his paper, but it is a paper that I am delighted to have in my professional library, and you will be too when you are able to have it.

The paper mentions the gifted and talented but focuses primarily on the handicapped. It is appropriate that the handicapped should be emphasized because this is our primary focus, particularly given the numbers of kids that are handicapped. However, I think it is very important that we not lose sight of the importance of the gifted segment. It is particularly important to us since there are such disproportionately large numbers of Hispanic and American Indian children that are not placed in classes for the gifted and talented. In relation to the general school population only about half the number of Hispanic and American Indian, as well as African American children, are placed in classes for the gifted and talented. I think this is something that we should not lose sight of. We must work for better identification of some of these children.

One of the things I wanted to focus on, at least in this first point, is the issue that Leonard raised regarding the disproportionate and the over- and underrepresentation of culturally and linguistically diverse exceptional children in special education classes. Historically, Lloyd Dune (Anne Willig mentioned Lloyd Dune the other day), in one of his earlier papers in 1968 on a Seminole article, indicated (and somewhat shocked the special education community by saying) that two-thirds of all the special education classes were classes for the mildly mentally retarded and that about 80 percent of the kids in there were either poor Hispanic or poor black kids. This was supported by the study of Jane Mercer in 1973. Simmons and Brinegar also reported in 1973, from the State of California, that we did indeed have disproportionately large numbers of black and Mexican American children in California being placed in classes for the mildly mentally retarded.

Now, in more recent years, we have looked at the data from the Office of Civil Rights. As Leonard has indicated, some of the accuracy of these data is somewhat questionable, but they are the most comprehensive data that we have. In 1978 there were forty-one million children in the sample. However, as recently as the 1984 data released in 1986, there were only nineteen million. The sample size has been changing, and the population sampled has also been changing. We don't know which groups of children, which school districts have been left out in the process, but it is, nevertheless, the most comprehensive data that we have. They give us some idea, in terms of trends and direction, of placement of ethnic minority children in special education classes. One of the things that has been somewhat surprising to people over the last few years is that Hispanic children have been placed in classes for the mildly mentally retarded and the speech impaired and the trainable mentally retarded at disproportionately low levels. This is somewhat surprising in that we think of these children as being at risk because of their language differences, their poverty and what not. We are now finding them in relatively low numbers as reported in national data.

If we look at some of the other children, American Indians are overrepresented in classes for the trainable mentally retarded. They are overrepresented in classes for the learning disabled, and they have been off and on overrepresented in classes of edgeably mentally retarded. Black children have been overrepresented in classes for edgeably mentally retarded, trainable mentally retarded and severely emotionally disturbed. Asian children, on the other hand, are underrepresented in all categories of the handicapped and overrepresented in classes for the gifted and talented. So one of the things we are looking at very hard is why we are seeing these types of figures and the changing data over the years. This has been a concern to many of us in special education.

As Leonard indicated, some of these data are somewhat questionable; if you look at the national data, they provide us with one picture, but if we look at individual state data, we realize that the national data obscure some of the state data. For example, in California, the Hispanics are overrepresented in classes for the trainable mentally retarded as well as the edgeably mentally retarded, but nationally they are grossly underrepresented. In other states with large Hispanic populations, the same phenomenon exists, so we have to be very careful when we say that Hispanics are underrepresented in classes for the handicapped.

If we want to look at some of the variables that may contribute to this, Leonard has already indicated that between 75 and 90 percent of our referrals in special education end up in special education. Nationally who is making the referrals? The teachers are making these referrals, and who are these teachers? They are primarily women. They are primarily white, and they are primarily middle class. And they are making referrals primarily on males, many of them minority group males from lower socioeconomic backgrounds with values very often incongruent with those of the teachers. In many cases, the behaviors of some of these children may be perfectly acceptable in their own homes and their communities but unacceptable in the classroom, where their behavior, as I said, is not congruent with that of their teachers.

So I think one of the concerns we have is that these end up in placement in special education. Another thing that is related to this is that both Nancy Cloud and Leonard have indicated that where we have alternative placements such as bilingual education, we have fewer special education placements. Nancy indicated that in one year when she analyzed OCR data, there were sixteen school districts that placed 100 percent of their LEP kids in special education. There were forty school districts that placed 50 percent or more of their LEP kids in special education.

Hopefully, these things are changing because these data that Nancy looked at are a few years old now. I think what experience points out is that there is indiscriminate placement of some of these children at times. One of the concerns that, I think, many bilingual teachers have is knowing that the placement sometimes is indiscriminate and also that the language of instruction in special education is typically English. So one of the things that Nancy Cloud has speculated is that many bilingual teachers are hesitant to make referrals to special education because they feel that the children, even though they may be somewhat handicapped, will receive better quality instruction in a bilingual classroom. So this may be another phenomenon that is taking place.

Leonard also mentioned the problems of migrant children. In 1988 the Inter-State Migrant Council reported that 1 percent of the migrant children were in special education. We looked at about 10 percent of the general school population as special education, so if they are only reporting 1 percent, that means that either the gross number of migrant children that is not being identified or their records are not being transferred with them. Some of the speculation is that since some of these kids are in school districts for only a brief time, the school districts don't want to take up their time or their resources to assess and determine special education placement for kids who are going to be moving on in a very short time anyway. This is a concern.

Another thing that we look at is that Asian parents tend to be somewhat hesitant to allow their children either to be tested or to be placed in special education. Some Asian groups feel that a handicapped child is an indication of some parental wrongdoing, and, consequently, having a child in a special education class is, in essence, putting out the dirty laundry to tell everybody one did something wrong. This is one of the reasons we think that some of the Asian data contain lower numbers.

Another thing is that the values and behaviors of many of the Asian kids, their values are fairly congruent with those of many of the teachers, and, consequently, the teachers are less prone to refer these kids for special education. In some respects, some of these kids are also more prone to be referred for gifted classes because their behaviors tend to be more congruent with those of the teachers.

Some final comments on what Leonard talked about in terms of testing. The assessments we use continue to be one of the major problems. Many of them are inherently biased. If the tests themselves are not biased, very often the test results are interpreted in a manner that is biased or the placement is biased. So we need to continue to work to eliminate these problems.

Again, in terms of personnel needs, we have severe shortages of qualified personnel in bilingual special education classes. In California many of our classes have bilingual aides who are actually doing the instruction, and the classrooms are being taught by monolingual English speaking teachers, who are not able to communicate with many of the kids very well. They are utilizing their aides to do much of their instruction. Our programs at Cal State-Los Angeles simply cannot turn out students fast enough to meet the needs of the school districts.

These are some of the problems we have. Leonard's paper is, as I said, very extensive, very comprehensive. It touches on some major issues, which I am sure will enlighten all of us. Thank you.

Presenter: Barbara M. Flores

Discussant: Mary Lou McGrath, Cambridge School District

I am very honored to be here today among people who care so much about children and about the preparation of the education caretakers of our children, and I greatly appreciate this opportunity to be here as a learner. As superintendent of schools in an urban school setting, sometimes referred to as the People's Republic of Cambridge, I spend a great deal of time on such issues as the boycott of Coca Cola in support of South African freedom; whether or not to distribute condoms to high school students (that was a three-month community project); how to support the gay/lesbian students at the high school, a current issue affecting systemwide long-range planning by the hiring of new staff and so forth.

Before I comment on Barbara's paper, I would like to take a few minutes to comment on the papers that have been presented in the last two days. As the education leader of an urban school system, I encourage you to continue the important research on preparing mainstream classroom teachers, staff development, teacher preparation, teacher certification and waivers on teacher certification, grouping, cooperative learning which we in Cambridge believe is probably going to be one of the best answers to education for us), teaching strategies, school restructuring, early childhood education, the tremendous issue of equity, the role of educators as advocates for students and the roles of parents in the community, the big issue of collegiality, school based management. These are all major concerns to the practitioners in achieving excellence in education for all children. And I ask you to share with all the teachers that you work with in preteaching and those that have been teaching for a while. Something that we in Cambridge believe very strongly is Ron Evans' famous quote: "All children can learn, all children must learn and all teachers must learn to teach all children." I say it every time I talk to teachers and students I ask you to say that to the students that you are working with.

I love being superintendent of schools. It is a wonderful school system. I am very fortunate. I have a community that is extremely supportive of education. I will tell you briefly about presenting the school budget. First, we presented it to the School Committee this past spring. Then I had to go before the city council. I was on Cable TV for four hours presenting the School Department Budget. We have a Plan E. We are the only place in the country that has a proportional representation form of government, so that the city manager is the major mover of the city. We have 7,500 students in our school system, and for this present school year we have a $70 million General Fund Budget, not counting all the wonderful state and federal grants that we receive. The next morning the city manager called my office and said, "I have $1.9 million in additional funding that I would like to give to the School Department." That gives you a sense of the community I see my role as superintendent to go out there and be working sixteen to seventeen hours a day helping a community understand that the education of the children in Cambridge is not solely the responsibility of the School Department. It is the responsibility of everybody in the city.

The theme for our current school year "accountability and collaboration." I speak with many superintendents I know that sometimes they are a little concerned about "Sure, you can do those things in Cambridge because you have a lot of money," but we know what the problems are in education. I believe we now how to solve them. I just think we need to work hard to do it and have the community become a part of that process.

To comment on Barbara's paper, about ten years ago the teachers and administrators in Cambridge were having a great debate about how children gain literacy and how teachers should teach children to be literate. The debate came about for two reasons. It revolved around special education and that whole issue of LD, learning disabilities, and pulling kids out of classrooms. At that time the superintendent of schools was a person who came out of an elementary school experience. I was then Director of Elementary Education. I am a second grade teacher, so you can see I am very into the work that Barbara's doing. We had a Coordinator of Primary Education; she went off to a conference in Canada, where she met Don Haldway, who has done a lot of work in New Zealand.

At the same time our bilingual programs were going, and there was a great debate about the issue of whether the students were mainstreamed, and, "Oh, they're not prepared, and they would only be retained," and the numbers were going up in the special education classes, and all those things I'm sure you know all about and we had some difficulty when the state came in and took a look at the number of students in special education and our process for evaluating kids when they were being mainstreamed, and so forth.

That led us to say, "Let's take another look at what we are doing." In conjunction with Leslie College, we put together the first literacy project, The Literacy Center. We have thirteen elementary schools. The Center was at one of our large elementary schools which had both a Hispanic bilingual program and the mainstreamed English program, and the staff both programs were involved. That was about ten years ago. That project was very successful. I heard people talking yesterday about university relationships to school systems. We, in Cambridge again, — and it is not all due to my work — the former superintendent, Bob Peterkin, who's now in Milwaukee, put together a partnership for public education, which I and the school system are really benefiting from. It involves Harvard, MIT, Leslie and about sixty-five major companies including LOTUS, Polaroid and Draper Lab. We have put together in this past year, from the systemwide key results plan, a written shared vision statement for the partnership with Leslie College's being an active member for many years with us now in Cambridge.

They support a full-time professor to work with our literacy centers in Cambridge. Our teachers in the original project, as well as now all of the schools, became very active through training sessions with Don Haldway to become researchers. We have had outside evaluators, and ten years later, all thirteen elementary schools have literacy centers. We are a school system of choice, and in a number of our schools we have four or five different programs — a regular program, a bilingual program, a follow-through program, special education programs so that all of the people in the buildings take part in the literacy centers, which are for grades K through 3. So we in Cambridge believe that the whole language classroom is the most appropriate environment for second and first language learners because it establishes an atmosphere of purposeful interaction to allow students to approach each other and the adults in order to respond, react, and engage in authentic communication. We have many, many parents taking part in workshops in the literacy center, and big books are written and illustrated by parents in all of the languages we have in the school system.

The teacher creates a classroom, a social setting in which learning is celebrated, by encouraging students to take risks, develop hypotheses, and become more knowledgeable. In each stage of development, the child is given full recognition for possessing knowledge and expressing that knowledge in a communicative fashion.

As Barbara points out, we are dealing with the empowerment of children rather than a transfer of knowledge. As children experiment, they do seem to go in and out of the various stages of literacy development, as Barbara pointed out, but the magic is that the whole language classroom allows all children to advance through the stages. All children make progress and remarkable gains.

In Cambridge, we have seen results similar to those documented in the study that Barbara has described in detail. Last year, grade teachers in our bilingual and our two way Amigos Program carefully analyzed students' writing samples over the course of the school year. The teachers, in fact, became researchers themselves by observing students engaged in print and by utilizing a descriptive inventory based on Marie Clay's characteristics of early writing. The teachers were able to appreciate each child's gradual development of the customs used in English, Spanish, Portuguese, and Haitian Creole. It was seen that all children made substantial progress in literacy and biliteracy.

We are currently refining a portfolio system of evaluation for all of the students K through 12 because we belong to the Coalition of Essential Schools at our secondary schools. Our curriculum development is focusing on student interest and thematic approaches across the curriculum, and by using authentic literature which draws on a student's cultural racial and ethnic heritage, we are striving to create a truly democratic classroom environment where diversity is celebrated.

Recent evaluation results on our two way Spanish-English Amigos Program are very encouraging. Dr. Landberg and his assistants are just finishing up the report and have found there are gains in the students social acceptance of one another.

I will stop there for one minute and say that our Amigos Program draws students from all over the city, which is close to Harvard University. We refer to it as the Brattle Street area of Cambridge, and it is an area where the Tories lived during the Revolution and where many people at one time sent their children to private schools. Over a period of years many of these people the public school system through the schools of choice. A number of these families have children in the Amigos Program, which is located at the other end of the city, very close to large housing projects. When we talk about social acceptance of one another, it is fantastic that these children are going from one end of the city to the other to one another's birthday parties. Children who have never been over to the astronomy Observatory are going, and parents from all the different socioeconomic groups are actually spending time together and sharing dinners.

Academically, students in the program in grades 1, 2, and 3 are on a par with or close to their peers in the monolingual and bilingual programs, so we in Cambridge believe that achieving bilingualism and literacy may be possible for our students.
Thank you.

Presenter: Barbara M. Flores

Discussant: Betty Mace-Matluck, Southwest Educational Development Laboratory

I have had the privilege of reading the full text of Dr. Flores's paper, and I can assure you that it is going to be very useful to us out in the field when it comes out in print. Unfortunately, the time was so short that today she was barely able to give us the essence of the paper. You have a treat coming when you get the full text.

Dr. Flores has prepared a very interesting and scholarly account of emergent literacy by a group of youngsters that we certainly would expect to become skilled readers and writers as they progress through the elementary grades and beyond. She's pulled together theory and research from a variety of theoretical and research paradigms that speak to the development of literacy by children, and she's illustrated how philosophy and practice based on this related, collective theoretical base plays out in the classroom.

I congratulate you, Barbara, for this very scholarly and useful presentation. And I want to say up front that my intuitions and biases lie clearly with the view of literacy that Barbara has presented. Now, having said that, I must also say that having worked in the field of education and educational research and development for almost three decades, I have learned to keep an open mind and to consider hard, cold facts. I'd like to tell you what I think some of these facts are as they relate to the matter under discussion.

Fact 1: At this point in time, the term "whole language," like some other relevant terms in education (such as "bilingual education"), means different things to different people. A variety of things go on in classrooms under the rubric of "whole language instruction." This, in and of itself, makes it difficult to examine the effects of instruction labeled "whole language" on student outcomes. Many of us here today remember the so-called "impact studies" of the 1970s that looked at bilingual education, and we also remember the lack of validity of those studies because of the mixed bag of programs that were operating under the rubric of "bilingual education."

Fact 2: There is no doubt about it. The whole language movement has gained tremendously in popularity over the past decade or so. Witness, for example, the State of California adoption of a literacy initiative based in part on whole language principles; NEA's offering workshops throughout the country on whole language for its members; entire issues of some professional journals devoted to whole language; major publishing companies' coming out with Language Arts textbooks touting whole language instruction; and exhibitor's racks at conferences filled with materials that display prominently in their titles "whole language."

As Steven Stall has commented, the whole language movement is clearly "riding the pendulum" in the reading education of today raising the concern that as is often the case in education, a program enjoys widespread implementation before it is evaluated sufficiently to determine its long term effects, resulting, unfortunately, in the abandonment of good aspects, as well as the bad when the overall results don't produce a panacea for all students. This worries me.

Fact 3: I am convinced, and the research, as sparse as it is, suggests that the kind of instruction that Dr. Flores has described is highly effective as children move into literacy. Note the kinds of things that these students are able to do in literacy by the end of the first grade, or even at the end of kindergarten, as Barbara showed us a few minutes ago. Not only do they learn a great deal about alphabetic principles and how the code works, but they are happy and motivated youngsters. This is no small matter when you are trying to keep kids on track towards literacy development.

I have observed classrooms of youngsters, not only kindergarten and first grade levels, but on into the middle grades, engaging in such tasks as dialogue journal writing and creating text for their original books using whatever knowledge they have of literacy at the time. Those youngsters continue to be motivated to read and to write. This certainly is a plus when compared to classrooms of children going through what Barbara has termed "status quo" instruction. Where students in those classrooms are struggling with worksheets, laboring with exercises on word analysis, or what seems to be an unending amount of phonics instruction.

Fact 4: A great many youngsters, far too many, are leaving our schools after 12-to-13 years of schooling with insufficient literacy skills to function productively in the world of work in this highly technological society. Although I would suspect that they are as good, if not better, readers and writers than our society as a whole a generation ago, their level of literacy is simply not adequate for contemporary society. A better way, a more efficient, way has to be found to help all youngsters reach full literacy in one or more languages, and certainly, I think the whole language movement, or the whole language approach, offers a promising alternative to traditional instruction.

Fact 5: Literacy education in this country has been based predominantly on code-emphasis approaches for many generations, although now and then, as we all remember, there have been periods where "functional" versus "form" approaches, that some would say share some of the characteristic of whole language instruction, received considerable amount of attention at one time or another.

Proponents of these code emphasis approaches believe that some form of systematic, direct, explicit instruction in code-breaking strategies (that is, phonics, phonemic segmentation, word analysis and all the rest) is necessary for students not only to gain mastery of the adults forms of literacy, but to do it in an efficient manner. They would argue that while some children who have had wide and rich exposure to literacy in their home environment can achieve adult level of literacy without such instruction in school, they argue that is not efficient. They would argue further, as Stall and Miller have done in their article in the Spring 1979 edition of the Review of Educational Research, that because lower SES children typically have not had as much exposure and the same type of literacy interaction in their environment as how their higher SES counterparts, they may need direct instruction in code-breaking strategies simple to catch up, and that these youngsters simply do not have the time, once they start to school, to accumulate their thousands of hours of exposure to print that is needed to break the code and that a more efficient approach is required.

Whether one would agree with this premise (actually two) or not, the fact remains that classrooms continue to be, for the most part staffed with teachers who themselves learn to read through code-emphasis approaches and who were trained in teacher preparation courses to teach literacy through those approaches; and the schools, for the most part, certainly not Cambridge, are administered by principals and superintendents who also have had this kind of background.

Fact 6: For me to be able to convince the dyed-in-wool believers in code-emphasis approaches that an approach to literacy development that does not include some component of systematic, explicit instruction in code-breaking strategies is as efficient and will produce as good or better student outcomes, not only in the early stages of literacy, but in the long run, I need some research. I need some evidence. I need some hard-cold facts. So my plea is for some well-designed longitudinal studies of the kind Dr. Tucker was talking about this morning that address several important questions, and let me just give you some of those that I think are necessary to get some answers and fairly rapidly. What are the long term effects on student outcomes of literacy programs that are based on different theoretical viewpoints? Are the results of these different theoretical viewpoints similar or different when differing kinds of research methodologies are used? Another question: What are the effects of whole language approaches on literacy acquisition beyond the early stages of literacy? Are the effects different from those obtained from code-emphasis approaches? What kinds of interventions are most effective and most efficient as children pass through different stages of their literacy development and for children who are entering school with differing kinds and amounts of exposure and interaction with print in their environment? What kind of literacy environment and interventions facilitate development for three-and four-year-old students, because, as you know, more and more of these youngsters are entering formal pre-school programs, and the code-emphasis people and their influences are there? What are the differential effects of whole language approaches on *writing*, irrespective of their effects on reading.

Finally, are there *components* of literacy programs that are effective regardless of the philosophy on which they are based? How can we improve existing programs, through modification, to enhance their effects on literacy acquisition?

That's a long shopping list that will keep us busy for awhile, but I have a few more items that are specific to Dr. Flores' research reported here. It has been posited that there is a psychogenetic order that children pass through in their acquisition of literacy. You find, Barbara, that some children deviate from that order, as expressed in your paper. What's different about these children? Are there differential kinds of intervention indicated for these kinds of children? You also found that, during the Syllabic period, Spanish-speaking children selected to represent the "written string" Syllabically using more vowels than consonants, whereas the reverse was true for the English-speaking children writing in English. Assuming that this pattern would hold over other, similar populations, are differential instructional content or procedures indicated for different language groups?

Finally, you indicated that most of the children in your study had reached the alphabetic phase (or period) by the end of first grade, and you commented a number of times in your paper that the next difficult task (or challenge) was for them to learn standard orthography or conventional spelling, and you noted that the alphabetic principles that they had learned work only some of the time. Does this represent a shift in their instructional needs? What kinds of interventions are most effective and efficient at this stage to help them meet this challenge?

Again, Dr. Flores, I thank you for an insightful paper. I would certainly hope that support for research in this area would be forthcoming and that you and others will continue to create and examine new evidence that will advance our knowledge of how best to teach literacy in our schools.

Presenter: Wallace E. Lambert

Discussants: James Alatis, Georgetown University

Good morning, ladies and gentlemen. I am very pleased to be here this morning. It is a great honor, indeed, but I must say that I accepted this assignment with a great deal of trepidation because everything I know about bilingual education, I learned from Wallace Lambert. He is the man that made it possible for me to believe that I was a worthy human being.

For a long time I wondered, as a coordinate bilingual in English and Greek, whether I was going to go crazy because of these two languages or worried that I was going to suffer some cognitive loss. Then he came up with the magnificent work and proved what all we Greeks knew along, that not only are we not inferior, but we are probably superior to the rest of the world. This hellenic hubris hyperbole of mine has, I am afraid, caused a lot of enemies to gather around me. But with great trepidation I read this fifty-one page magnum opus because Wally is a man whom I have literally been following through the years.

About the first thing I saw was this magnificent issue of the Journal of Social Issues title "The Problems of Bilingualism," in which he had an article, "Social Psychology of Bilingualism," which introduced the notion of "innovation with instrumental motivation." I have been following him around ever since. I have a lot of books, and I give them to students, and I always lose them. This is my Bible. I never lend this book to anyone, and don't anybody come up here and take it from my hand. That is just one example of the kinds of things that Wally has done.

There is another thing that I am very much impressed with. Wally mentioned our friend, Howard Lee Nostrand, whom I knew from the old days of the NDEA. Wally's essay, dedicated to him, is on the teaching of culture. In this was a marvelous article on Wallace Lambert, "An Alternative to the Foreign Language Teaching Profession." I figured this is a man who really hits me where I live because essentially what he is saying is that we need a multidisciplinary, interdisciplinary approach to this whole business. I say with much trepidation that I read the paper because it sounded to me as if he had changed his mind, and I based my entire life on that concept. Indeed, in the profession of English as a foreign language, I have been Executive Director of TESOL. Even in the TESOL guidelines, if you read them carefully, you will recognize what I consider to be the hand of Wallace Lambert. The point of all this is that "we have come a long way, baby," to quote the Virginia Slims advertisement.

If we look only upon the TESOL profession and what it has done - the strides it has made both professionally organizationally, then I would say to you, Wallace Lambert, that a lot of these folks have smartened up, a lot more than you might suspect. Yet, how can I talk to my master here, at whose feet I have been sitting all these years? This patriarch (his youthful appearance belies the fact that he has been with me all these years) has spoken at Georgetown University Round Table Proceedings, which, by the way, is another world in which I live. There, this notion of the technician has been sort of dissolving. This is my disclaimer; perhaps I have been living in a world all of my own not only in the United States, in Washington rather than in Canada, but it is a different professional world. So I admit that my point of view may be, in itself, biased and, of course, how can I forget that, once more, it's deja vu all over again for me.

I'm living my life all over again, when I read these fifty-one pages. Every single thing that Wallace Lambert says is something that I have lived through. I am a humanist. Would you believe it? I was a foreign language professor and still am, but I am also on the other side of English as a foreign language; and there ain't that many technicians out there, as we think there are, in the narrow sense of that word. There are a lot of people out there doing a lot of good. I recognize that the mistake I was making, of course, was not to realize immediately that your ploy here was to provoke and to caricature. You, indeed, did that, and you did provoke me, but I am your friend and you have been my friend for years. I forgive you, but I'll never forget that under the National Defense Education Act, when I worked as their specialist for language research, we couldn't find enough people who had the kind of skills to come up with the kind of research design that we could fund. We even went begging.

The kind of people that we would ask to help us review these were Wallace Lambert and Robert Pulitzer and John Carroll. You remember those days!

So in many ways we have lived lives that are parallel, but you have, indeed, provoked me, on behalf of these professionals out there because it is quite true that there was a time that the "humanisticly orientated literate of the foreign language profession" did indeed care only about literary criticism in these foreign languages. They set themselves up as the models, and they wanted everybody to imitate them, and what happened was they destroyed the foreign language profession because nobody was gaining any of the kind of communicative competence that the whole world wanted. They were all trying to be university professors, doing literary criticism of the ancient Hispanic and French classics. But that was a long time ago, and I don't think that can be said any more.

It troubles me somewhat that we are dichotomizing the two professions in such a severe way because even the foreign language profession, as opposed to the ESL profession has come a long way, baby. They, too, have produced some superb scholars, some superb practitioners in this field, who are, indeed, of the mechanistic point of view and who are themselves interdisciplinary in their point of view. Those are my immediate reactions and, with apologies, let me go quickly through a prepared set of remarks that I have here and sort of help you understand my view of this paper, which I did read, word for word. I will give you a synopsis of it; then we can pick up the discussion.

Dr. Lambert has made some strong points about the potential for adopting immersion programs in the United States, and there is a long history of research conducted by Canadians to which he properly refers in the bibliography itself as a very valuable thing.

He indicates that in Canada both native English speaking and native French speaking children profit from this type of instruction. He also points to some examples of the type of instruction in the States from which similar benefits have been obtained. Many of us, including me, including TESOL, including ACTFL, including Georgetown Roundtable, have advocated both foreign and multilingual education in this country, and we have supported what Wally refers to as an "additive" form of bilingualism. I strongly urge that we continue, all of us, pursuing many of Dr. Lambert's recommendations; however, there are a few points in the paper that merit further discussion. These points bear on the conclusions and recommendations from the paper.

The first is the characterization of second language education in the United States which he explains to us. I have different dichotomies of my own about ESL versus EFL. I can go on for years on the distinctions between toffles, teffles, and tessles and teflon. Simply, the instruction of second language education in the United States is much more complicated than the picture that I find in the paper.

The second point that needs discussion concerns the attitudinal data that are presented. These attitudinal studies should be replicated elsewhere, and they are in Miami. I understand and I encourage you all to continue because what may be special characteristics of the population in a particular community where you perform your survey may not be the kind of characteristics we find elsewhere. Forgive my hellenic ethnocentrism, but Albanians? The only thing worse you could have done for me is to study Turks, and I simply suggest, without joking, that is not particularly typical.

The third point is the disconcerting reports that we have heard regarding the long-term effects of participation in Canadian-style immersion education. Questions have been raised about literacy outcomes in both languages and the ability of immersion students to handle complex academic subjects later in school. My favorite point concerns the implementation of immersion education. We need to know what the essential components of a successful immersion program are. We need definition. There aren't many people, laymen — most of them, who think that when you talk about immersion programs, you are talking about intensive English as a foreign language programs. There are many other people who use even worse and more generalized definitions, and we need these definitions, both in Canada and the United States.

Finally, there are strong indications in the educational literature that simply increasing what the paper refers to as time in raising second language — foreign language achievement levels will be insufficient unless more attention is paid to the students' mental processes, including things we are hearing about, such as scheme of theory, learning strategies, and so forth. All these concerns lead me to the conclusion that there is no simple adoption of immersion education in the United States that will be satisfactory to address the complex issues concerning minority language education in this country.

Now, I think I will not go through this entire paper. Yours is fifty-one pages, mine is fifteen. But these are the most important points I would have wished to make, and maybe we can leave them for discussion later on, and I will simply sit down.

I would only caution again. Remember there are a lot of people out there. The big issue is not so much those people that I know about, who are well educated, and I use that word advisedly. You know, we say the old bromide: "Training is for dogs. Education is for people." There are a lot of educated people out there, and they are doing a good job. Then its very dangerous, it seems to me, to sort of lump them in with everybody else who may not be doing such a good job. There are a lot more of them, as I said, than we realize. There is a whole series of people who are not well educated and not well trained, and those are the ones that we want to be very careful of. We want to be careful of the tendency on the part of administrators to hire people for merely knowing the language. Half of our battle would be over if we would be able to convince administrators that, first knowing how to speak or knowing a language does not qualify anybody to teach it to anybody, let alone as a second language.

Second, teaching a second language is different from teaching a native language to people, and third, because of these two, what is necessary is a cadre, a reservoir of well-educated people of the kind that you are suggesting. We should follow what the TESOL guidelines suggest and what I characterize at Georgetown as a kind of humanistic interdisciplinary, multidisciplinary applied linguistics approach to first and second language acquisition and learning based on the most recent research on language acquisition, psycholinguistics and social linguistics. We have a unified profession out there. That is the other thing I would like to comment on. That is to say, it is true that we have had this internecine warfare that has been going on for years in this profession, but the foreign language people and the ESL people are coming closer together in every way, substantively and organizationally. The bilingual people are coming together with the ESL people.

I know the history of this situation. I have followed it very carefully. When NABE, the professional association was first being created, it was largely political and non substantive. I am exaggerating. I am truly caricaturing here. TESOL started off as a largely academic organization with a strong base in linguistics, in old-line linguistics, descriptive, structural linguistics, and was hardly political at all. NABE has developed and grown, and it is now becoming and has become a much more substantive, scholarly, academic organization. TESOL, on the other hand, has also begun to realize the practical realities of our political life and has decided that they ought to become a little bit more political. They have, in fact, shown leadership in the creation of this thing that was mentioned in my bio data, The Joint National Committee for Languages. This is nothing short of an action arm, and information arm for the action arm. The council is pursuing a lobbying effort, a legal registered lobbying effort which attempts to increase the American public's awareness of the importance of what we do, all of us as language professionals, as well as to monitor legislation in such a way to give the Congress the kind of impetus to provide the kind of funding we need to train teachers. I mean the kind that is being implemented here by OBEMLA, by its development programs and its emphasis upon the education of teachers on fellowships and the training of teachers and of teacher trainers.

So the world has changed, the profession has become more unified. It is more professional than purely politically polemic, and I think what we ought to emphasize those things. Now to conclude, of course, the kind of research that Wally Lambert and his people have been doing is essential to everything we do, but there are a number of reasons why no simple adoption of immersion education in the States can be expected to produce as satisfactory outcomes as the developmental programs being funded by the Department of Education. Local communities will need to identify the program characteristics that make most sense given their own variation in parental attitudes, teacher characteristics and key instructional features. By monitoring these programs carefully over time and collecting the data needed to understand the program implementation, we hope to get closer to understanding how to improve upon the education of language minority students in this country.

Of the education of deans, it is said, "There is no end." This dean has constantly been educated and informed by the works of Wally Lambert. I continue to listen to him and to read everything he writes. He and his colleagues are doing yeoman service to us all with their studies and should be encouraged to continue them. We all await the results. Thank you very much.

Presenter: Wallace E. Lambert

Discussant: G. Richard Tucker, Center for Applied Linguistics

In his stimulating paper, Wallace Lambert raised seven critical issues or areas for our consideration. I propose to identify and comment briefly on each:

- How can the complementary education needs of language minority and language majority youngsters best be met?
- What are the critical attributes of the "construct" that we refer to as second language education or foreign language education? What are the similarities, and what are the differences?
- What is the role of community surveys in helping to inform the structure and the implementation of educational program alternatives?
- What are the goals and aspirations of parents for their children's language proficiency development?
- What constraints limit attempts to improve second or foreign language education programs?

- What innovative model of second language or foreign language education might be implemented successfully on a broader societal basis?

- What research lacunae remain?

By way of background I should reiterate a point made very strongly by Professor Lambert in his paper and, indeed, in all of his writings — that we must, as a society, provide an opportunity for educational excellence for all students — whether they are language minority or language majority individuals. This is a theme reiterated in other papers during this conference as well (e.g., Bernard Mohan, JoAnn Crandall, and Anna Chamot). Let me now say a few words about each of the seven issues raised by Professor Lambert in his paper.

Complementary Education Needs

Despite the fact that the language education profession is vigorous and thriving nationally, we still find ourselves, I believe, in the somewhat awkward situation that we have two parallel American establishments concerned with language education which seem to interact or cooperate substantively only rarely. We have a well developed and articulated network under the Office of Bilingual Education and Minority Languages Affairs (OBEMLA) to provide services to those concerned with improving the quality of education for limited English proficient individuals through a network which includes a variety of "demonstration" education programs, a national clearinghouse on bilingual education, two evaluation assistance centers, and sixteen multifunctional resource centers. This network of practitioners, researchers, administrators, and policy makers does not, unfortunately, seem to collaborate as closely as might be optimally desirable with another establishment operated through the Center for International Education. This other operation funds a separate set of national foreign language resource centers, language and area study centers, and national demonstration projects that develop materials and conduct research particularly for the so-called less commonly taught languages. The overriding goal of both of these federal programs is to improve the quality of language education, and one would hope that there would be the fullest possible sharing of information among the various branches of our Department of Education concerned with this topic.

From my perspective one of the salient characteristics of Professor Lambert's presentation was his attempt to describe and to address the needs of all youngsters, to suggest that their needs are complementary, and to describe research and program innovation that would effectively address concerns of both minority and majority youngsters.

Second Language/Foreign Language Education

In the paper and in subsequent comments, Professors Lambert and Alatis discussed similarities and differences in foreign language and second language educators' selection, training, aspirations, and perceptions. There are two areas in which I disagree with the observations offered by Professor Lambert. First, I believe that the majority of English as a Second Language (ESL) teachers recognize and support the value of bilingual education, native language heritage, and cultural preservation and that they actively work toward sustaining and nurturing the resources which the child or student brings to the classroom. Likewise, I believe that the pendulum in foreign language education is today swinging toward content based teaching or the use of the target language as a medium or vehicle for studying other content material. The characterization of foreign language educators as individuals solely or even primarily interested in the study of literature does not seem to me to be consistent with trends noted in American foreign language education within the past decade. Perhaps even more important from my perspective, for purposes of the present discussion, is the fact that ESL teachers, foreign language teachers, and bilingual teachers seem genuinely interested in sharing experiences, methods, approaches, and techniques with one another. What I perceived as resistance or reluctance to collaborate ten or fifteen years ago seems to have been replaced by a far greater interest on the part of diverse groups of educators in working collaboratively to meet the needs of all youngsters.

Community Surveys

From my own perspective, the portion of Professor Lambert's paper in which he reported on his research with Donald Taylor conducted in Hamtramck and Pontiac, Michigan (now being replicated in Miami, Florida), was the richest and most exciting part of the written presentation. In this section he synthesized work described in Lambert and Taylor (1990), which should be required reading for all interested in the intersection of topics such as language proficiency, acculturation, assimilation, and language and cultural conservation. I was struck by the intriguing generalization that for the numerous groups studied interethnic similarities are far greater than the differences; and, that if anything, there is greater variation between representatives within an ethnolinguistic group across social classes than between those of differing ethnolinguistic backgrounds. These similarities characterize groups in terms of their aspirations for their children, their feelings about the role of language in education, their views of the desirability of preserving the heritage language, and their strong support for the desirability of adding a second language to their repertoire. Research such as that conducted by Lambert and Taylor, should be an essential prerequisite to the implementation of educational reform in any multilingual community. It is somewhat ironic that such research in an American setting should be conducted by to Canadian based university professors. Why are American researchers, for the most part, not involved in such work? Should OBEMLA be providing funding for such research as an integral part of their traditional Title VII grants? Is not the case that we will have great difficulty in selecting and effectively implementing educational options unless we understand a great deal more than we do at present about the attitudes, values, and aspirations of the diverse participants in the target communities?

(As an aside, in this regard I predict that work presently being conducted by Professor Kenji Hakuta of Stanford University and some of his colleagues with support from the Spencer Foundation will be quite instructive. They have recently begun a project to collect data from three cohorts of third graders and their siblings. One cohort comprises youngsters born in Mexico who came to the United States before the age of five; a second includes youngsters born in the United States whose parents were born in Mexico; while the third is composed of youngsters and parents born in the United States. The intention is to probe in a very painstaking and careful way issues such as language skill, language choice, language attitude, attitudes toward the addition or suppression of other languages, and patterns of language use. This work will continue through the summer of 1993. To the extent that the results of careful qualitative and quantitative sociolinguistic research such as this can be linked directly with decisions concerning the choice and implementation of innovative language education programs, the likelihood of success will be greatly enhanced.)

Education Goals and Aspirations

Professor Lambert argues forcefully that American parents genuinely desire functional bilinguality for their children. He draws his conclusions partly on the basis of his work in ethnically diverse communities — particularly those located in Michigan and Florida — and partly on the basis of his passionate belief in the values of bilinguality.

Nevertheless, I have the feeling that so-called "middle America" may not be so convinced of the overriding imperative to develop functional bilinguality as Professor Lambert believes. How often have we heard individuals report that they worry that if they add a second or foreign language to the curriculum, then something will have to be given up such as additional science or mathematics or social studies? It strikes me that (in particular) foreign language education is still too often viewed as a curricular frill rather than as a component of core or basic education. In this regard, in later sections of his paper (and indeed in other presentations on the integration of language and content), Professor Lambert argues strongly that an individual does not need to give up anything in order to be able to add a foreign or second language or in order to be able to nurture or to sustain a heritage language. But the question remains how strongly so-called "Middle America" is truly committed to this goal.

Constraints on Foreign Language/Second Language Education

In this particular section of his paper, Professor Lambert once again discusses in some detail the desirability of providing the soundest possible education for all children with a primary focus on ensuring the intellectual rigor of the content. He stresses the need to meet parents' expectations or aspirations that the educational offerings of their children's curriculum not be watered down. He also devotes a good deal of discussion to the question of how little time is available to be devoted to the task of language education. These remarks set the stage for an introduction of the next major issue — that of an optimal innovative model to meet the needs of minority and majority youngsters — developmental bilingual education.

Developmental Bilingual Programs

In this, the major section of his paper, Professor Lambert reviews in detail the rationale for, and the research evidence supporting, the power or effectiveness of two way, interlocking, or developmental bilingual programs. From my own perspective, such programs provide a powerful vehicle to promote the affective, cognitive, and social development of children. They lead inevitably to the development of additive, as opposed to subtractive, bilingualism while enabling children to master content material appropriate to their fullest potential.

The results of the various available evaluations suggest to me, as to Lambert, that bilingual immersion or developmental bilingual education is an optimal vehicle for promoting the development of bilingual language competence in youngsters. Participating children typically master receptive and productive language skills in both languages and master content material at a level appropriate to their grade and peer-group controls. They develop positive attitudes about the program, the target languages, and their speakers. This program innovation represents a special case of the fullest possible integration of language and content instruction. Apparently, the success of this approach rests on the teachers' ability to foster the development of solid building blocks in both languages which leads to the development of social as well as academic language skills (cf., Tucker & Crandall & Tucker, 1990).

Research Needs

The paper by Professor Lambert identifies but does not develop, several research lacunae. Professor Lambert argues that we need to conduct detailed community analyses before selecting and implementing program alternatives. He also argues, convincingly that such programs, once implemented, should be subjected to rigorous longitudinal analysis. The message which he tries to convey in the strongest possible way is that if we are to understand the cumulative impact of educational innovation, then we must implement an innovation carefully, support the innovation, replicate the innovation and then figuratively stand back and allow it to unfold over the educational life of the child. When Professor Lambert describes a longitudinal study, he is referring to following children from the beginning of kindergarten through their graduation from secondary school — and indeed perhaps even tracing or tracking graduates of secondary school programs in subsequent years to ascertain what life choices have become available to them. Clearly we have not pursued such language education research in the United States.

I also believe there is a special need for research that looks at the power of various innovative language education programs for third language speakers. For example, if we have groups of Albanian speakers who wish to nurture their heritage language (for all of the positive reasons suggested by the research literature), how do we provide them with the best possible opportunity to develop simultaneously skill in both Spanish and English? Within the context of the changing demography of the United States, I am sure that there exist large numbers of individuals from diverse ethnolinguistic groups who would like to have the opportunity to nurture and sustain their heritage language while simultaneously adding not only English but also another major language to their repertoire. Research on this broad topic is virtually nonexistent and deserves concerted attention.

Lastly, Professor Lambert's paper focuses mainly on formal sources of second or foreign language education; and, indeed, there is a whole complementary research enterprise that has begun to look at informal or non formal sources of foreign or second language education. This agenda needs to be expanded significantly.

In conclusion, lest Professor Lambert's treatment of the Canadian approach to foreign language immersion be misinterpreted, let me clarify that he argues unequivocally that we need to seek and take steps to develop conditions to promote additive bilinguality for children. In some settings this may involve participation in developmental bilingual programs; while in other settings it may involve other alternatives. What we need to do is to offer all children the opportunity to nurture the precious language resources which they bring with them and to add to that repertoire some other languages. Such a research agenda, and, indeed, a move toward the development of a language competent American society, will demand dynamic collaboration among researchers, practitioners, and policy makers — those previously concerned with ESL, bilingual education, and foreign language education — now working together toward a shared goal.

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Presenter: Ellen Riojas Clark

Discussant: Migdalia Romero, Hunter College

The paper on teacher training models by Dr. Ellen Clark to which I was asked to respond seemed to focus almost exclusively on the content of training, that is, on what competent bilingual education teachers should know or be able to do in preparation for and in the delivery of instruction. The competencies that were enumerated built on the competencies that had been identified in the '70s by the Center for Applied Linguistics and on those identified by California SED in the '80s. Dr. Clark went into a very discrete analysis of knowledge, skills, and attitudes that were needed to be an effective bilingual teacher building on Cummins' empowerment framework (1989). However, reducing training to a list of competencies leads to a danger of thinking that single shot workshops or semester long courses focused on the dissemination of information in these different areas will adequately prepare teachers with what they need to know or be able to do in order to be effective in a bilingual classroom. It assumes a top-down model of professional development whereby providing teachers with knowledge, skills, and attitudes will suffice. It minimizes the active role of the teacher in constructing creative solutions to complex problems as well as minimizing the power of interaction in learning. While competencies are important in staff development, to reduce it to such a list places the focus on the product rather than on the process. By shifting my focus to ways in which professional judgment, and not just competencies, has best been developed, I hope to round out the picture of "The State of the Art on Teacher Training Models with Special Reference to Bilingual Education Teachers."

My response, therefore, will take us in a different direction, beyond competencies, focusing on the processes by which teachers develop competence. Rather than talk about training, I would like to focus my comments on professional development — on recent innovations within the field and on new directions. I have chosen to focus on professional development rather than on training because a professional development paradigm makes the professional teacher more responsible for change and for creative problem solving. Development also implies evolution and change over time as well as introspection. It places the focus on the process by which the teaching professional acquires the knowledge, skills, and attitudes necessary to be effective and on how she or he develops professional judgment about what works, with whom, and why.

A Process Orientation to Staff Development

Two words will guide my discussion on professional development processes. They are "reflection" and "cooperation." Neither is a new concept in education, but they are currently being applied in more creative ways than ever before, not just to teaching but to staff development.

Reflection, within the context of staff development, implies active, persistent, and careful consideration of what one does in a classroom which either promotes or fails to promote learning. It assumes a purposeful, reasoned search for a solution to a problem starting with a reflective conversation about the context of a situation or problem, an active monitoring of it, subsequent introspection and analysis, and eventual action. The focus in reflective staff development and reflective teaching is on problem setting and problem solving, employing an understanding of theory, thoughtful and informed analysis, and critical evaluation. Reflection can be accomplished interpersonally, in written form, or through interaction with colleagues. The result of reflection is that it causes one to slow down and pay attention, to observe critically oneself and one's effect on students, and to listen. In the process the professional is able to develop and test ideas over time. Critical to the process is the fact that reflective staff development emanates from the personal observations and needs of the teacher (Levine and Jacobs, 1986).

Collaboration within staff development involves teachers socially interacting with others in the process of learning and growth. Together, teachers seek out joint solutions, refine strategies, and conceptualize problems, thereby avoiding premature evaluation of ideas as either good or bad while ideas are still being developed. Collaboration incorporates formative feedback which is used to modify and improve on ideas and practices in transition. As such, it gives teachers the opportunity to converse with colleagues in order to clarify rather than judge. Sharing and providing feedback empowers the receiver and fosters introspection and creative problem solving (Levine and Jacobs, 1986).

Dewey stated as far back as 1904, "It is more important to make teachers thoughtful and alert students of education, than it is to help them to get immediate proficiency." I don't think things have changed much. I think there still is a need to make teachers "thoughtful and alert students of education." Workshops and courses are not enough, however. Nor is classroom experience or supervised field experience enough. What happens with field experience, be it supervised or not, is that practicing teachers tend to emulate the teacher with whom they are paired or whom they see, without challenging or thinking about the effects on students of what is done in the classroom. The new teacher is often more concerned with emulation and recipes for what to do rather than with creativity or reflection. She/he is less concerned with challenging the status quo. Current research suggests that if we give teachers the tools for reflecting, critically, on what they are doing, for looking at their students to see the impact they are making on their education, if any, we will have a much better system for developing teachers as professionals.

The recent research on innovation in staff development suggests a move away from a single shot workshop or course approach to teacher preparation which simply provides information or develops competencies without understanding or follow through. The move is towards an intensive, supportive, reflective, and interactive process of professional development. The process is intended to give teacher interns and teachers control over the content and the means by which their professionalism will be enhanced.

The remainder of my presentation is divided into three parts. I will begin by discussing some preliminary findings on professional development from two studies funded by OBEMLA. The first was completed by Arawak in 1986 and the second is a study of exemplary Special Alternative Instructional Programs (SAIPs) in which I am presently involved. I will then discuss what some of the more prolific writers in this field have said about effective staff development and its essential components. Finally, I will end with a description of three exemplary staff development programs which embody the characteristics of reflective and interactive staff development.

Research Findings

In 1986, Arawak, under the leadership of Ana Villegas, conducted a study with funding from OBEMLA. It looked at inservice staff development approaches in bilingual teacher training programs. It found that traditionally training in these programs began with an assessment of needs done either by an outsider or by the project director. The needs assessment usually involved collecting information on topics/strategies of interest to teachers. In some cases needs were arbitrarily determined without input from teachers. Some programs also analyzed their resources, and established objectives in the process of planning their professional development. A next step in the traditional approach to staff development was to determine the incentives that would be provided to trainees to attend training sessions and then to set up the training program. Only infrequently was there any follow-up to training. This left application up to the teacher who had taken the course or who had participated in the institute, symposium, or workshop. Sometimes evaluation was built into the program, but all too often it did not even get used to improve the training process.

While a traditional approach to staff development seemed to dominate bilingual programs, as studied by Arawak, a more dynamic and creative approach to staff development was evolving through the work of Showers (1985) and Showers and Joyce (1987). Their model focused on a process that begins with information. However, rather than give teachers quick-fix solutions and recipes for what to do in the classroom when students are just learning English or when teachers don't know the language of the students, teachers are helped to understand why a new approach is being proposed and advocated. The focus, therefore, is initially on theory. The aim is to develop an understanding of the theory that supports effective practices. According to Showers and Joyce, you start with theory and then move into observation and demonstration of practices where teachers get to see the strategies that are being recommended, not just imagine them or talk about them. In the next phase teachers actually practice those strategies, initially in the training setting and subsequently in their own classrooms. Practice is not done in a void. It is done with feedback by an observer (a colleague or resource person). The observation is followed up by a discussion conducted in a supportive coaching environment. That process from theory to observation to practice with coaching and discussion between peers about what has gone on, what was effective, and what was ineffective, may lead to the reformulation of theory and the generation of new practice. Teachers, as a result, get involved in challenging theory, questioning it, using it, and even reformulating it, when warranted.

The components of the Showers and Joyce model are part of a staff development program used in California to train bilingual teachers, the Multi-District Trainer of Trainers Institute (MTTI). It was developed by Margarita

Calderon in 1980 in consultation with Joyce. It has been successfully replicated in other states (NCBE, 1988). The Showers and Joyce model is also the basis of some other models of staff development that will be described later.

Both Arawak's findings and Showers' and Joyce's model point to top down models of staff development insofar as they begin with information dissemination from the top with a goal of application by teachers in the classroom. The difference is that Showers and Joyce are focused on the process and on reflection and interaction as a critical part of that process. The inservice programs reviewed by Arawak were more focused on the dissemination of information with little attention to the process, nor to either reflection or interaction as part of that process.

In the current study of exemplary Special Alternative Instructional Programs (SAIPs) funded by OBEMLA (USOE #T288001001), we are also finding teacher involvement, collaboration, and reflection in the staff development components of our sites. Typically, these exemplary SAIPs exhibit teacher involvement in staff development, from teachers themselves determining what they want to learn about or know how to do better to the actual delivery of workshops. The degree of teacher involvement may well be the result of the innovative nature of these programs. In the absence of strict guidelines on how to best reach students when you have twenty different native languages represented in a class, creativity is allowed to flourish and even encouraged. Teachers formally and informally share with their colleagues their strengths and the strategies they have found that work for them. Often content area teachers share with and learn from ESL teachers and vice versa. While workshops are used to develop concepts and introduce current learning theory on language and content learning, subsequent peer discussion engages teachers in active reflection on classroom practice. Training time is often embedded in the program, thereby eliminating the need to deal with incentives for attendance. At some of our sites teachers meet either before or after class or during the school day both formally and informally to discuss teacher generated issues and problems. This collaboration sometimes takes the form of curriculum development, staff development, or student case study committees. Clearly, teacher involvement, ownership, cooperation, and reflection are key to professional development in our exemplary SAIPs.

SAIP teachers sometimes get to share their emerging expertise with other teachers outside the program. The net effect of this sharing is greater school-wide interest and involvement in and commitment to the English language learner population.

Processes

At this point I would like to shift to processes and review five different staff development processes that have been identified in the literature as being effective. Then I will describe three programs that use some of these processes. I call these processes nontraditional because, like the MTTI, they do not look like a single workshop, seminar, or lecture, nor do they look like traditional college courses. Some have already been alluded to in my discussion of Showers' and Joyce's work or of the SAIP sites.

The first process is professional dialogue (NCBE, 1988). It consists of small groups of teachers meeting regularly around issues of mutual concern. Their discussions lead to thoughtful decision making. They do not necessarily focus on skill mastery but rather on a common problem or a common issue to which there is no single answer. This leads to authentic exploration of real issues or problems among peers. Teachers in a dialogue forum think about the cause of problems and explore viable solutions. Groups like this that meet on a regular basis can come back and discuss how they tried to alleviate or remediate the problem at hand and what was the net effect of their intervention. In the process, those who dialogue develop a camaraderie with their colleagues, together with a sense of advocacy for their students and a sensitivity to the issues.

The case study is a form of professional dialogue that has been used in business. It was recently proposed as another way of having teachers deal with the reality of classrooms through collaborative discussion of real life cases and problems (NY Times, 10/9/90). The difference in case study dialogues is that the case has been designed in advance to reflect and collapse real or perceived instructional problems into prototype cases for analysis. Two of our SAIP sites use real case study forums to engage teachers in discussing individual students who seem to be having a difficult time in adjusting socially or academically to school. Teachers meet with other support and social service professionals, when available and warranted, to discuss individual students and how teachers, parents, and/or outside agencies might all be enlisted to help in the students' adjustment.

Professional dialogue can also focus on the discussion of journal articles that all participants have read or a lecture they have heard. In such a context one person summarizes or synthesizes what was read or heard. Discussion leads to clarification and also focuses on the extent to which the personal experiential knowledge of the teacher supports or challenges external knowledge. Finally, discussion turns to the implications of theory/external knowledge for classroom practice and planning.

No form of professional dialogue relies on the transmission of knowledge or of a set of known skills. Rather it relies on the creative energy of the teachers who are engaged in the dialogue. Teachers are engaged through introspection, reflection, and creative problem solving. The end result of dialogue is a series of solutions or approaches that emanate from interaction with other professionals.

A second staff development process that is discussed in the literature is the involvement of teachers in curriculum development or modification (Glatthorn, 1987; NCBE, 1988). As an example, a group of teachers at one of the SAIP sites developed a science curriculum based on the existing curriculum for the district but taking into account the fact that the SAIP students were not fluent native speakers of English. The result was a curriculum that is more appropriate for use with second language learners — one in earth science and the other in life science. While the curriculum was important, the professionalism and camaraderie that evolved were just as important. Both are natural outcomes when you get teachers talking about curriculum, a professional matter, and negotiating changes that are meant to affect the outcomes of learning. Professionals collaborating and creating a product for professional consumption make for stronger advocates and better teachers — more reflective teacher, because reflection is what they are doing as they adapt curriculum.

A third training process relies on peer mediation. It can take two forms, peer supervision (Goldsberry, 1986; NCBE, 1988) and peer coaching (Showers, 1984). Peer supervision involves teachers' observing each other and recording full information about observed classes. Observers and observees then get together to identify (1) patterns of behavior on the part of both the teacher and the learner, (2) intended and unintended outcomes, (3) alternative approaches and solutions to learning problems. The process of peer supervision is peer organized and peer supported. It, too, is based on reflection and cooperation.

Peer coaching (Showers, 1984) is somewhat like peer supervision in that peers work together demonstrating skills and providing feedback. The difference is that in coaching the paired teachers have just learned something new and then proceed to try it. The teachers move from theory to practice, trying out newly acquired skills, observing each other and providing objective, non evaluative feedback and support. In discussing lessons, teachers talk about successes and failures with a new model and collaborate on lesson development and modification. "By placing the major responsibility for coaching with peers, status and power differentials are minimized. A peer coach asks non-judgmental questions that cause the teacher to analyze and evaluate instructional decisions" (Showers, 1984).

The last non-traditional staff development approach is action research (NCBE, 1988). In action research, teams of teachers are brought together to identify a problem and propose a solution including the formulation of a research question, research design, and some form of intervention. The collaborative process is intended to get teachers actively involved in research, in trying out new approaches in a structured way, and in critical reflection and evaluation. It is a research-based form of professional dialogue.

All of the non-traditional approaches to the development of professional expertise and judgment that I have discussed rely on a great deal of reflection on the part of the teacher. Teachers have to think about what they are doing, and they have to be analytical and self-critical about their approach, their strategies for delivering and organizing instruction and the ways in which they facilitate learning. All approaches also involve some degree of collegiality, of teachers talking to teachers, talking to staff and thinking critically about what they are doing. Most importantly, these examples of reflective and collaborative professional development involve a holistic approach that I think gets lost when professional development is reduced to competencies. Competencies, as I stated earlier in my presentation, focus on the discrete elements, the discrete skills, knowledge, and attitudes a teacher needs. These approaches focus on how they all come together in a classroom in the development of professional judgment and in the improvement of instruction and of services to English language learners.

Program Prototypes

There are three staff development programs that I would like to share with you that bring together cooperation and reflection and do so within the context of some of the processes outlined above. The first is a whole language training program that Barbara Flores from California State University at San Bernardino is involved in. While a visiting scholar with the Southwest Regional Laboratory (SWRL) in 1988, I had the opportunity to see part of the program first hand. The whole language training program involves six schools in Los Angeles county that have made a commitment for their entire school to switch to a whole language approach to language development. Four agencies collaborated in supporting the effort: California State University in the persons of Barbara and Esteban Diaz, the Los Angeles County District, SWRL's Southwest Center for Educational Equity (SCEE), and the Multi-Functional Resource Center (MRC) in San Diego. Barbara and Esteban provided direct orientation and staff development to administrators and teachers. Staff development was followed by coaching in the classroom and the organization of study groups of teachers. Two or three teachers across grades would meet to discuss some of the issues and problems they were having with the transition to and use of a whole language approach. Teachers were given articles to read about the issues and research on whole language. Discussion or study groups would talk through some of the problems they faced as they used this new approach. Barbara is also involved at the research end, analyzing student writing samples emanating from the whole language curriculum. Her presentation here today is based on that work.

A second prototype is the Principal's Center at Harvard University. Principals from across the country and a few from outside the U.S. are brought together for a few weeks in the summer. Every day the participants meet to hear lectures based on research and theory they have been expected to read about beforehand. After the presentation the principals meet in small groups and discuss with a group leader what they heard in the lecture. The purpose is to clarify what each of them interpreted the main points of the presentation to be and to explore the implications of the presentation for their role as principal. Built into the day is an opportunity for at least one hour of reflective writing time. Principals then come back and share some of their writing with colleagues to clarify further some of the issues and discuss some of the implications and problems. Again, the focus is on reflection but, this time, using writing and dialogue in the reflection process.

The last prototype also builds on reflection and interaction but incorporates collaboration in the development of training materials. It is the Language Development Specialist Academy (LDSA), which I have been running for the past seven years at Hunter College. Groups of twenty to twenty-five teachers meet for nine sessions over a six- to seven-month period. Meetings are scheduled every three to four weeks on Saturdays from 9:00 until 3:00. The teachers represent all grade levels from kindergarten through twelfth grade. Teachers who are selected to participate in the Academy are a nominated sample from across the state of New York. They have been identified by an administrator as successful in developing the language proficiency of language minority students. The aim of the Academy is to establish a cadre of language development specialists capable of training others, to rejuvenate experienced teachers by exposing them to different strategies and techniques used by colleagues at their level of expertise and to provide a setting for professional growth within teaching. The overall objective is to move teachers between theory and practice through guided reflection. The movement is meant to be bidirectional since it is the philosophy of the Academy that good practice informs theory as much as good theory informs practice. Therefore, theory is used to generate practice and practice is analyzed to understand theory. While each session is a self-contained and independent unit, all topics relate to some aspect of language development.

To accomplish the goals of the Academy, the day is divided into six parts. During the first hour teachers discuss in forum fashion the experiences they have had since the last session that have exemplified, clarified, or created questions about issues discussed in the previous session. They also discuss how that session directly impacted their teaching, specifically what they did differently since the last session that built on that Saturday's presentation. Since the previous session took place a month earlier, and they have been keeping a reflection log since the last session, it is relatively easy for them to reconstruct and share insights.

The next three parts of the Academy move participants from theory to practice. First, they listen to presentations of current research and theory related to language development and language learning. The presentations are made by guest speakers, usually researchers or known writers in the field. Participants think about the theory and interact with the researcher, clarifying the theory personally and discussing its implications for language development in school. Over lunch, they continue to discuss in small groups, sometimes with the researcher, the theory presented in the morning session. After lunch, in small groups, they apply the theory of the morning in the analysis or development of materials for either personal classroom use or turn-key training. The materials they develop take a variety of forms including observation checklists, planning guidelines, or classroom lessons. The cycle has moved from theory to a discussion of its implications in the classroom to the application of theory.

The reverse cycle from practice to theory begins when teachers demonstrate for the group a lesson, or a portion thereof, which they successfully used with their students. After the demonstration, the group discusses both the strategies that were used and the theories which potentially undergird those strategies.

At the end of the day academicians reflect quietly, in writing, on the impact of the presentations and discussions that day. They then share some of their writing focusing more directly on what they will do differently or be on the lookout for when they return to school as a result of what they heard that day.

Summary

The Academy, the Principal's Institute, and the LA County's Experimental Whole Language Program are examples of reflective and cooperative professional development. In each case teachers are becoming more and more responsible for their own professional development. The three are also models that focus on a holistic approach to staff development. While one of their outcomes is the development of competencies, their main focus is on developing teachers who are tuned in to their teaching, able to make informed decisions which reflect sound theory, and able to create solutions to learning problems that go beyond solutions offered by textbooks.

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In 1980 nearly a quarter of the national public school teaching force — 504,000 teachers — reported having students with limited English proficiency (LEP) in their classrooms (Macias, 1989; Waggoner & O'Malley, 1984). Demographic surveys estimated the number of LEP children ages 5-14 to have been 2.5 million in the year 2000. This condition has had a major impact upon the required number of qualified teachers who can successfully instruct these students. As a result the estimates for bilingual/ESL teachers have dramatically increased from 126,000 in 1976 to a projected 170,000 in the year 2000 (Macias, 1989).

This high demand for qualified teachers capable of addressing the specific instructional and developmental needs of LEP students forces us to identify preservice teacher training models which guarantee that all graduating teachers are equipped with the necessary skills to deal effectively with the LEP population. As Ellen Riojas Clark (1990) contends in "The State of the Art in Research on Teacher Training Models with Reference to Bilingual Education Teachers," there is a need to "reassess, redefine and redesign teacher preparation programs for the new dynamics of the school population." I strongly agree with her premise that an "immediate need for reform exists."

Academic institutions can no longer rely solely on the specific number of teachers pursuing bilingual/ESOL certification to meet the demands of the local education agencies. Alternative means must be sought to maximize the potential of graduating teachers who are equipped with the knowledge of second language methodology, cultural understanding, and linguistics and who can modify and adapt curricula to the specific characteristics of an LEP child. A well-noted authority in the field of second language education, Muriel Saville-Troike (1985), has argued, "the qualification needed by teachers to foster students' academic competence are essentially the same whether they are labelled regular/mainstream, bilingual or ESL. Program boundaries exist because of the different disciplines from which regular teachers, bilingual education and ESL arise." I share her view and contend that an effort must be made to create cooperative linkages among the educational programs that train teachers. It is imperative that undergraduate programs be infused with the bilingual/ESL competencies identified so well by Clark in her paper and that the courses these competencies represent be accorded the same importance as foundation disciplines.

On August 14, 1990, the Florida State Board of Education approved an ESOL agreement regarding programs for limited English proficient students. A consent decree filed in the U.S. District Court in Miami on behalf of language minority students in the state will have far reaching implications for inservice and certification standards in Florida. The initiative, approved in lieu of a long and costly court battle with META — an advocacy group representing private individuals and agencies that protect the rights of language minority groups — will guarantee that all teachers who come into contact with an LEP child will be adequately prepared to meet the student's educational needs. Through the new law, Florida will have, for the first time, full coverage certification. In addition, all teachers will be required to obtain inservice training based on the following criteria:

1. Any teacher of basic subject areas (math, science, social studies, computer literacy) through ESOL strategies, assigned to instruct LEP students on September 15, 1990, for the first time, shall need to complete at least sixty points of inservice training or equivalent college credit from each of the following subjects: methods of teaching ESOL, ESOL curriculum and materials development, cross-cultural awareness, applied linguistics, and testing and evaluation for ESOL.

2. Any teacher of basic subject areas through home language strategies, assigned after September 15, 1990, shall complete at least sixty points of inservice training or equivalent college credit in methods of teaching home language, home language curriculum and material development, and testing and evaluation.

3. Any teacher who can certify that he/she has completed at least two years of successful teaching of basic subject areas using ESOL strategies or home language strategies prior to 1990 - 91, as verified by the superintendent, will only need to complete sixty inservice points or the equivalent college credits from the courses specified above.

4. Any teacher assigned to instruct LEP students in subjects other that basic ESOL and basic subject areas — physical education, art, music, special areas teachers — will need to obtain eighteen inservice points or the equivalent semester credit hours in methods of teaching ESOL.

5. Beginning teachers shall complete the inservice requirements within two years of their initial assignment.

(META Consent Decree, August 14, 1990)

Because of the enormous training situation this consent decree has created in all districts throughout Florida, the Department of Education has established that districts will have until the 1993-1994 school year to complete the required training of all their personnel. In essence, districts such as Dade County, with over 40,000 LEP students, will need to train over 18,000 teachers in the next three years.

This compels us to raise several questions: Can institutions of higher learning designated to provide preservice training continue to disregard the need to prepare all teachers, regardless of the area of specialization, in basic ESOl methodology, cross cultural awareness, applied linguistics and so forth? Should this additional training be solely the responsibility of inservice efforts? The answer must be a definite no. An integrative teacher training model in which teachers leave institutions of higher learning equipped with the new requirements of the decade must be implemented.

Another aspect of teacher training which Clark clearly delineates is the need to build teachers' competencies in the area of community participation. It is truly refreshing and significant to see parental involvement playing a crucial role in teacher education. I fully commend Clark for advocating the need to require skills in dealing with language minority parents. Oftentimes, preservice education relegates the task of learning how to work effectively with parents to on-the-job training or to the inservice level. Research is more and more providing evidence to correlate the involvement of parents to the academic achievement of students. It is, therefore, imperative that teachers develop new definitions of parental involvement in light of evolving multicultural contexts. Parent involvement should be viewed as a precess in which parents' needs are assessed and specific strategies are outlined in order to facilitate the successful participation of parents in the educational process of their children (Garcia, 1988).

The points examined in Clark's paper and those elaborated in these comments have important policy implications for the future. First, the federal role in subsidizing program to train qualified personnel must be augmented. This must be supported equally at the preservice and inservice levels. Secondly, states must move toward more stringent certification standards. Universities and colleges should strive to institutionalize bilingual/ESOL competencies at the undergraduate level and as a requisite for all teachers.

My recommendation for a teacher training model at the preservice level is based on the recent Florida case. The proposed model would require that all basic subject area teachers at the elementary and secondary levels take the following courses: ESOL methods, applied linguistics, cross cultural awareness, and testing and evaluation for ESOL. This training would be accompanied by a practicum in a setting exemplifying a multicultural context. This may necessitate an expansion from the traditional four-year baccalaureate degree curriculum to a five-year plan as originally recommended by the MERIT Center Study (Sutman, 1979).

In essence, there exists a need to work toward achieving a more integrated teacher training model, one which emphasizes greater cooperation among all disciplines and advocates coordinated efforts between the bilingual/ESOL and the regular mainstream teacher training strands. The time has come when we must re-examine and restructure existing teacher training programs at all levels to meet the needs of the future.

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